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ABSTRACT

This manual introduces health and safety trainers to the experiences and training needs of workers with limited literacy skills and provides tools and practical tips for developing materials and programs with literacy in mind. Chapter 2 introduces literacy issues through the stories of six workers and links literacy issues with health and safety concerns. Chapter 3 discusses how to link literacy to needs assessment and how to use results to improve materials and training. Chapter 4 describes how to write materials that are easy to read, visually appealing, and use illustrations to help explain the text. Chapter 5 covers using a checklist to evaluate materials, readability formulas, and focus groups to field test materials. Chapter 6 addresses adapting training methods to reach participants with a range of literacy skills. It presents sample activities for nine different participatory training methods, discuses their advantages and disadvantages, and offers tips for using them with literacy in mind. Chapter 7 presents reasons for testing participants' health and safety knowledge and skill level, offers tips for developing a skills assessment, and provides skills assessment models that involve minimal reading and writing. Chapter 8 discusses experimenting with innovative ways to make health and safety information more accessible to workers, advocating for change, and promoting and participating in literacy programs. Resources appear at the end of each chapter. Contains 54 references. (YLB)

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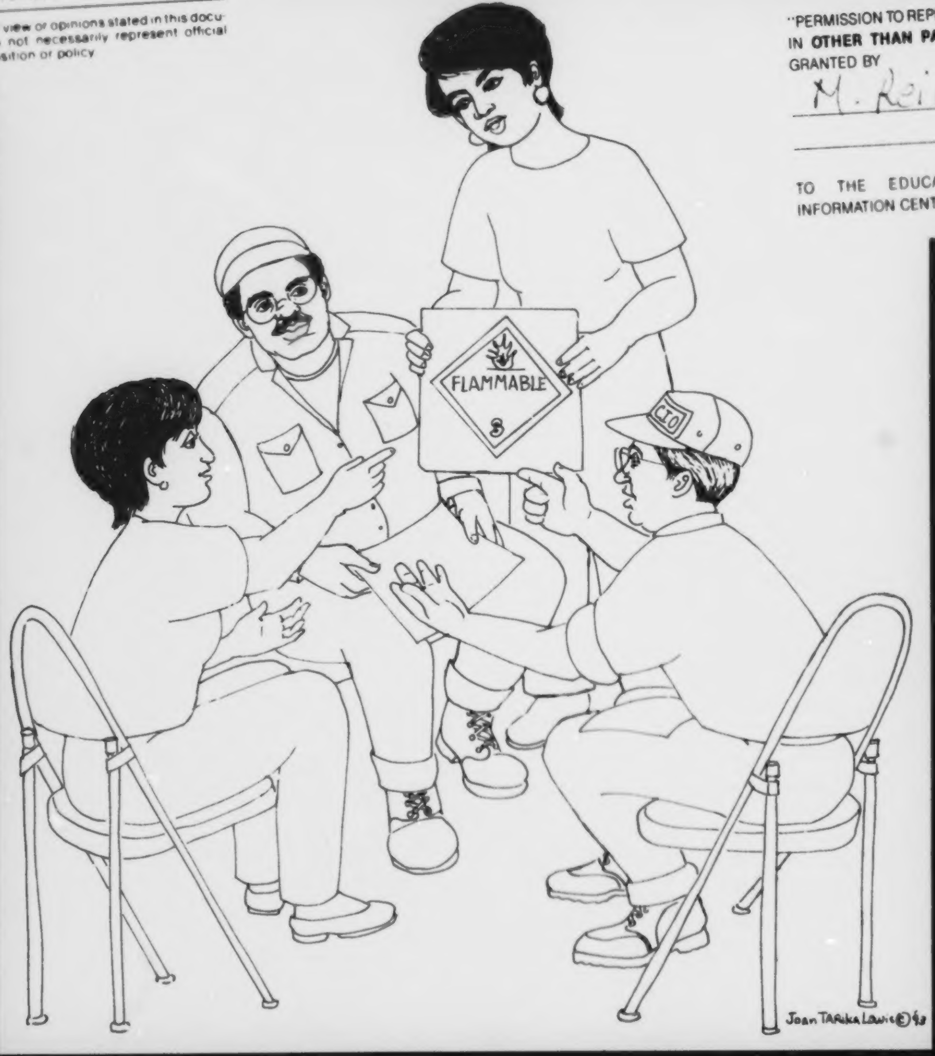

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The Right to Understand:

Linking Literacy to Health and Safety Training

Elizabeth Szudy
Michele González Arroyo

Labor Occupational Health Program
University of California at Berkeley
1994

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Writing Consultant	Cheri Pies, DrPH
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University of California at Berkeley
2515 Channing Way
Berkeley, CA 94720

To the workers and trainers who shared
their stories and experiences with us.

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Foreword

Headlines scream the news: Too many U.S. workers lack basic reading and writing skills. For many of us in the field of worker education, this news only confirms the whispers we've heard in the backs of our minds for years.

The Labor Occupational Health Program (LOHP) has produced hundreds of factsheets, training packets, books and videos. We have trained thousands of workers. And the truth of the matter is, we have failed, at times, to communicate the information that workers most need to know. Despite the best of intentions, we have failed to bridge the very real language gap between trainers and many workers.

Along with other educators and activists in the field of health and safety, we place a great deal of emphasis on the "right to know." We fight for the right of workers to have access to information that once was available only to management and "the experts." We know that knowledge is not enough and advocate for the worker's "right to act." We strive to make training empowering. But how empowering is it to look at a factsheet or material safety data sheet and see only a string of meaningless words?

Information without understanding is the opposite of empowering. It is defeating. We have come to see the "right to understand" as an indispensable link between the right to know and the right to act. As educators, our challenge is to reach all workers, not just the most literate.

This challenge sent us on an odyssey of discovery. The best teachers always remain students. But it isn't always easy. Critiquing our own work and facing up to our shortcomings are sometimes painful. On the other hand, it's been an exciting process, giving us a chance to explore new ideas with trainers around the country. And it's been an inspiring and joyous process as we get to know "adult learners" in literacy programs and they share their courageous stories with us.

We produced this book to share some of what we've discovered along our journey. And we hope that it will stimulate experimentation and an ongoing exchange among health and safety trainers and other educators. We know there is a lot of creative work going on, and we have only begun to uncover the resources out there. So let us hear from you!

Robin Baker
Director, LOHP

Reviewers

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Robin Baker, MPH
Director, Labor Occupational Health Program
University of California at Berkeley
Berkeley, CA

Jennifer Cromley
Hazardous Materials Coordinator
Service Employees International Union*
Washington, DC

Linda Delp, MPH
Acting Director, California Arizona Consortium
Labor Occupational Safety and Health Program
University of California at Los Angeles
Los Angeles, CA

Pam Nicholls, MA
Adult Literacy Specialist
Albany, CA

Sue Plimpton, MPH
Manager, Health Literacy Center
University of New England
Biddeford, ME

Jane Root, PhD
Reading and Language Arts Professor (retired)
Johnson College
Johnson, VT

continued

---

* Organization listed for identification purposes only.

Reviewers

Anthony Sarmiento
Director, Department of Education
AFL-CIO
Washington, DC

Nina Wallerstein, DrPH
Assistant Professor
University of New Mexico School of Medicine
Albuquerque, NM

Needs Assessment Participants

LOHP thanks the following people for sharing their experiences with literacy and health and safety training:

Joe Anderson
Oil, Chemical and Atomic
Workers Union
Lakewood, CO

Lori Andrews
University of Alabama
Birmingham, AL

David Baltazar
County of Los Angeles
Burbank, CA

Barbara Boylan
International Brotherhood of
Teamsters
Washington, DC

Garrett Brown
Pacific Industrial Hygiene Inc.
Berkeley, CA

James Celenza
Rhode Island Committee on
Occupational Safety and Health
Providence, RI

Brian Christopher
Alice Hamilton Occupational
Health Center
Washington, DC

Marianne Brown
Diane Factor
UCLA Labor Occupational Safety
and Health Program
Los Angeles, CA

Jane Griswold
University of California
Berkeley, CA

David Harrington
California Occupational Health
Program
Berkeley, CA

Janis Heple
University Extension
Davis, CA

Cathy Hummel
Alaska Health Project
Anchorage, AK

Laurie Kellogg
International Ladies Garment
Workers Union
New York, NY

Tobi Lippin
New Perspectives Consulting
Durham, NC

continued

Needs Assessment Participants

Amy Mock
United Auto Workers
Detroit, MI

Tom McQuiston
United Rubber Workers
Akron, OH

John Morawetz
International Chemical Workers Union
Cincinnati, OH

Lupe Sandoval
University of California
Davis, CA

Carlos E. Siquiera
American Federation of State, County and Municipal Employees
Washington, DC

Craig Slatin
Susan Moir
New England Consortium
Lowell, MA

Diane Stein
New York Committee on Occupational Safety and Health
New York, NY

Stephanie Troyan
Santa Clara Central Labor Council
San Jose, CA

Annie Vargas
University of California
Berkeley, CA

CHAPTER 1

Introduction

"Knowledge is power."
—*Folk wisdom*

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Did You Know That:

- A recent study estimates that almost half of all American adults — 90 million in all — struggle with basic reading, math and reasoning skills? (*Adult Literacy in America*, 1993)
- The majority of the reading materials used on typical jobs are between a ninth and 12th-grade reading level? (Rabin, *Occupational Health and Safety*, 1992)
- An average worker cannot understand 40 percent of the information in Material Safety Data Sheets (MSDSs), a key source of information about chemical hazards on the job? (Sattler, *Occupational Medicine*, 1992)

Many health and safety trainers have experienced first-hand how these facts can affect our work:

> "I tried an activity in a training that required people to read a case study and write on the board. People had trouble reading the materials. They weren't participating, and several people left the room. The activity didn't work, and I felt frustrated."
>
> "We know there are literacy issues among our union members. It can be as simple as having trouble when asked to read out loud, or as complex as being unable to understand the technical information on a factsheet."

What Do These Facts Mean for Health and Safety Trainers?

They mean that we must learn to:

- Make technical health and safety information more readable for **everyone**, including those with reading and writing problems.
- Adapt our training methods to rely less on participants' reading skills.
- Develop new methods of assessing what workers learn from our training.
- Find ways to work more effectively with participants who have a range of literacy skills.

The Labor Occupational Health Program (LOHP) has written this manual as a first step for trainers who wish to learn about literacy. We hope it will encourage you to begin addressing literacy issues with your training audiences and with other trainers you know. In the final chapter, we have outlined some ideas on further steps to take.

Developing This Manual

In preparing *The Right to Understand*, we:

- Turned to literacy experts for advice on designing educational materials. They also helped us make connections between literacy and health and safety.

- Talked with staff from worker-centered literacy training projects.

- Looked at other publications describing literacy issues, material development and training.

- Conducted a needs assessment with more than 25 educators and trainers to get their advice on what to include in this manual. The group included staff from union education departments, university training groups and literacy training programs. It also included community-based education programs and COSH groups (Committees on Occupational Safety and Health).

- Organized three focus group discussions with 25 workers who identified themselves as having difficulty reading and writing. These workers were recruited from local literacy programs.

- Worked as tutors with individuals in adult literacy programs. This helped us gain a more in-depth understanding of the issues facing adult learners.

This Manual Is Designed to:

- Introduce health and safety trainers to the experiences and training needs of workers with limited literacy skills.
- Illustrate the need for training programs aimed at participants with a range of literacy skills.
- Provide trainers with tools and practical tips for developing materials and programs with literacy in mind.

What About English as a Second Language (ESL)?

This manual focuses on developing health and safety materials and training programs for workers with reading and writing difficulties. This focus came from our own training experiences and from our discussions with workers in the focus groups. Most of these workers grew up in the United States speaking English and were educated in the U.S. school system.

Many of the ideas and suggestions in this manual will work with nonnative English speakers as well. We also list several good resource publications that specifically address bringing health and safety into the ESL classroom.

About Resources

Throughout this manual, you will see the Resource icon. It indicates that additional resources on that subject are listed at the end of the chapter. There is a more complete bibliography at the end of the manual.

Resource icon

☞

☞ Additional resources on **ESL** are listed at the end of this chapter.

In Their Own Words

This manual includes stories and comments from both the workers involved in the focus groups and the health and safety trainers who responded to LOHP's needs assessment.

Throughout the manual, trainers describe their experiences with material design, training and testing. They also discuss how they've learned about literacy and health and safety.

The next chapter begins with the stories of six workers from the focus groups, discussing how literacy has affected their lives and work. We hope the stories will offer new insights into the complex issue of literacy.

Resources

English as a Second Language (ESL)

Auerbach, Elsa Roberts and Wallerstein, Nina. *ESL for Action: Problem Posing at Work.* Menlo Park, CA: Addison-Wesley Publishing Company, 1987.

Barringer, Felicity. "When English Is a Foreign Tongue: Census Finds a Sharp Rise in '80's." *New York Times*, April 28, 1993, pp. A10(4).

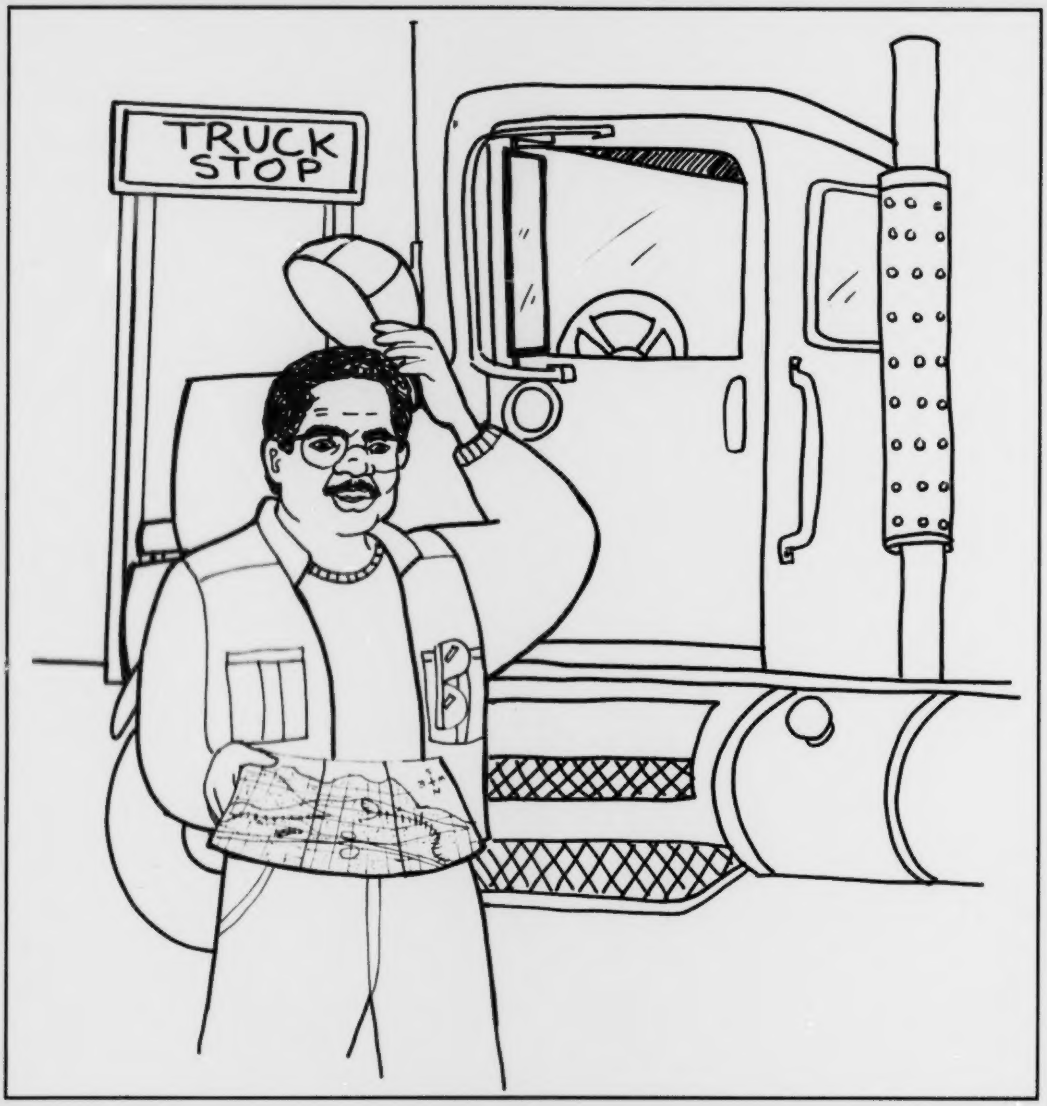
Kimball, Ana. *A Workers' Sourcebook: Spanish Language Health and Safety Materials for Workers.* Los Angeles: Labor Occupational Safety and Health Program, University of California, 1990.

Nash, Andrea; Cason, Ann; Rhum, Madeline; McGrail, Loren; and Gomez-Sanford, Rosario. *Talking Shop: A Curriculum Sourcebook for Participatory Adult ESL.* McHenry, IL: Center for Applied Linguistics and Delta Systems, 1992.

Santa Clara County Health and Safety Education Project. *Workplace Health and Safety: Training Materials Manual.* San Jose, CA: State of California Department of Industrial Relations, 1992.

Wallerstein, Nina. "Health and Safety Training for Workers with Low-Literacy or Limited-English Skills." *American Journal of Industrial Medicine: Empowerment Approaches to Worker Health and Safety Education.* November 1992, pp. 751-65.

Learning About Literacy



> "It seems like the whole world is based on reading, and if you can't read, you are just a person in a shadow somewhere struggling to survive."
>
> *—Kelly, Truck driver*

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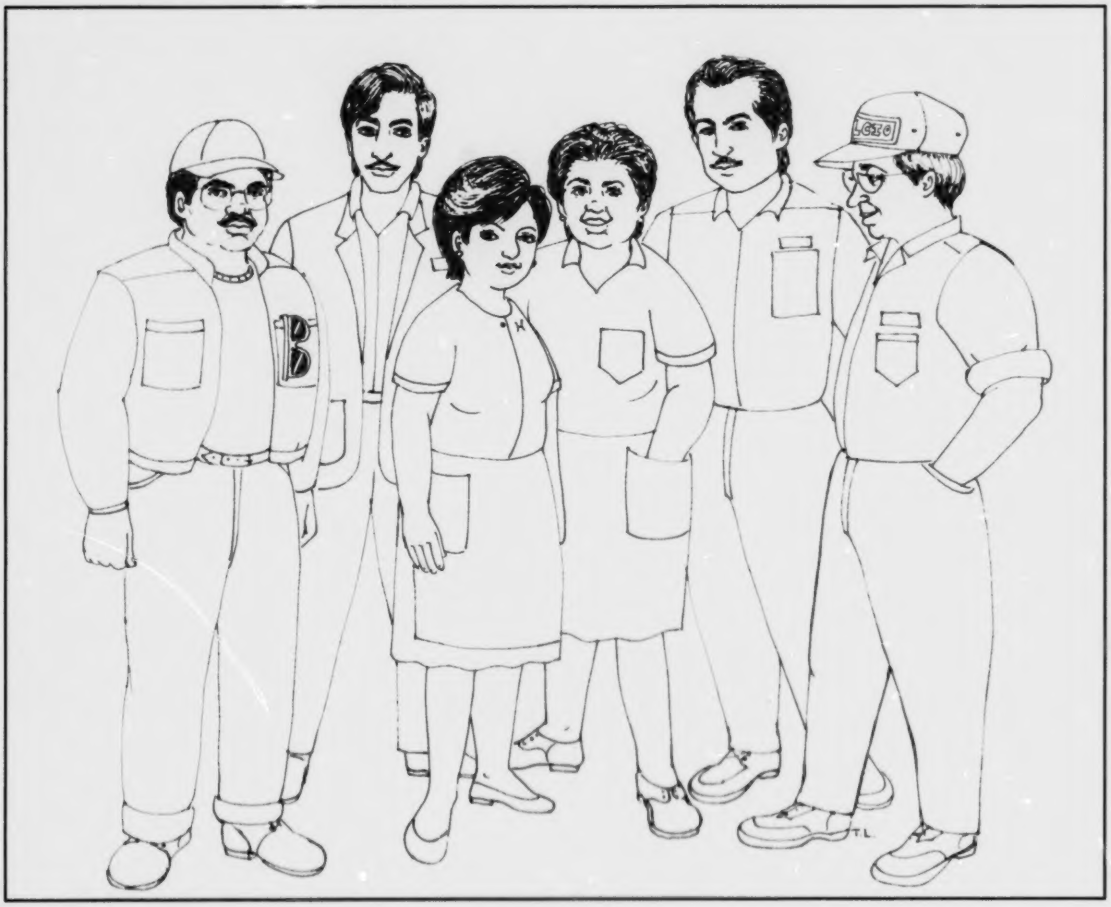
In This Chapter, We Will:

- Introduce you to literacy issues through the stories of six workers.
- Define functional literacy and provide other basic facts about literacy.
- Discuss some of the debate going on about current literacy definitions and statistics, including the "grade-level" concept.
- Link literacy issues with health and safety concerns.

Workers' Experiences with Literacy

In this section, six workers — Ricky, Alberta, Hank, Isabel, Joe and Kelly — share their insights and viewpoints on the impact that literacy has had on their lives. Their stories illustrate a number of important lessons, including:

- Workers with reading and writing difficulties are often highly skilled in their craft.
- Workers show great resourcefulness in dealing with their lack of literacy skills.
- Completing high school or college does not guarantee reading and writing skills.
- Friends and co-workers often help with survival skills on the job.
- The demand for better reading skills in the workplace often increases as one moves up.
- After years of living with a secret, it takes courage to seek new skills.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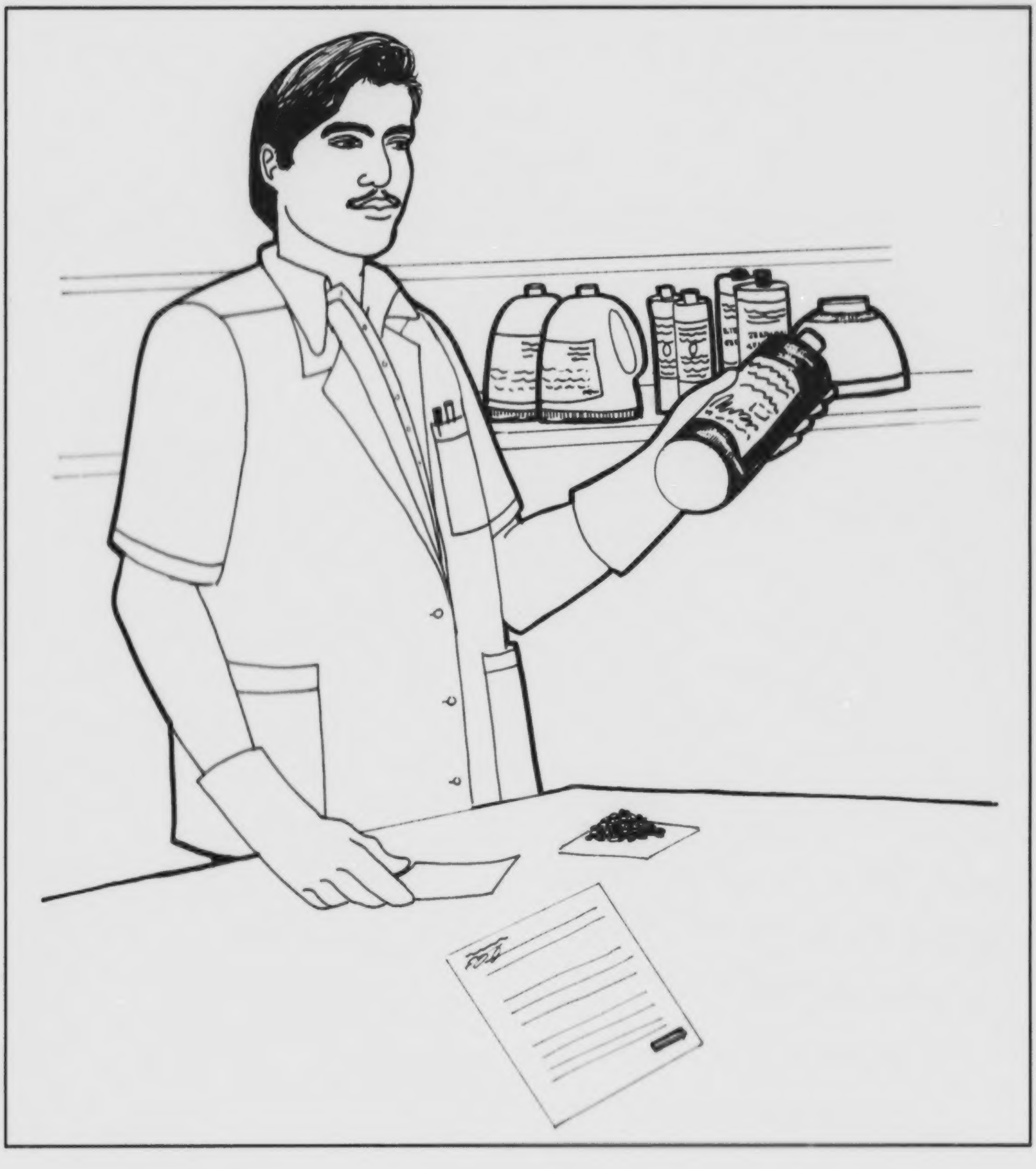


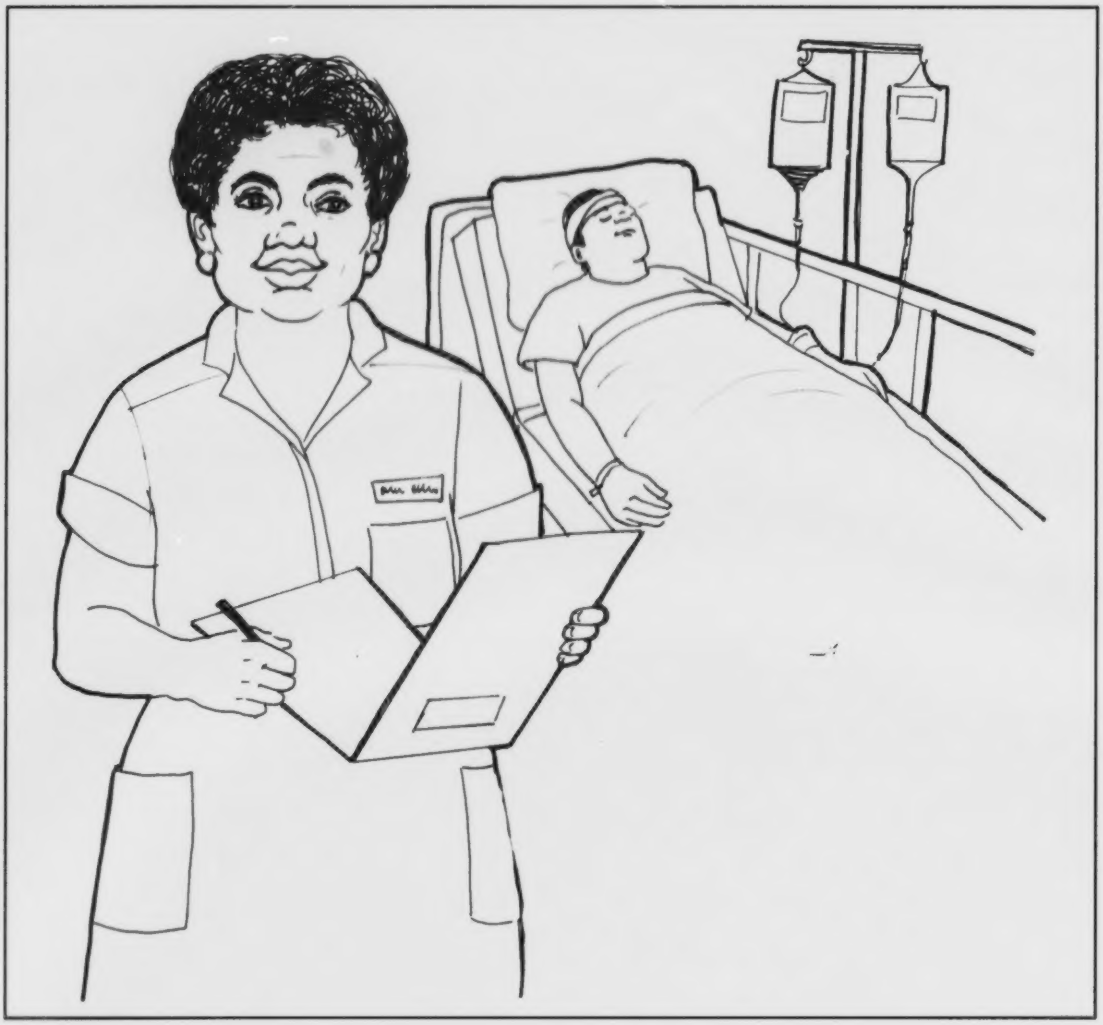
Ricky

Job: Film lab technician
Education: High school graduate (GED)

Ricky's Story

"I struggled with reading and writing all my life. I figured out ways to get around this. If I had to fill out a job application, I would make an excuse. I'd ask if I could come back in an hour, and I'd take it home and have someone help me. Or if I couldn't do that, I'd call someone on the phone and they'd help me with my spelling.

"I managed to get this job as a chemical mixer for a film laboratory, which is pretty high tech. I had to work with a lot of dangerous chemicals, and this guy came in and actually showed me where the dangerous stuff was and how to approach it. I got familiar with what chemicals looked like, and then I could relate the names to them. I even drew myself a little drawing of what the chemical particles would look like. And you know, I had my own little list there, and that was the way I managed."



Alberta

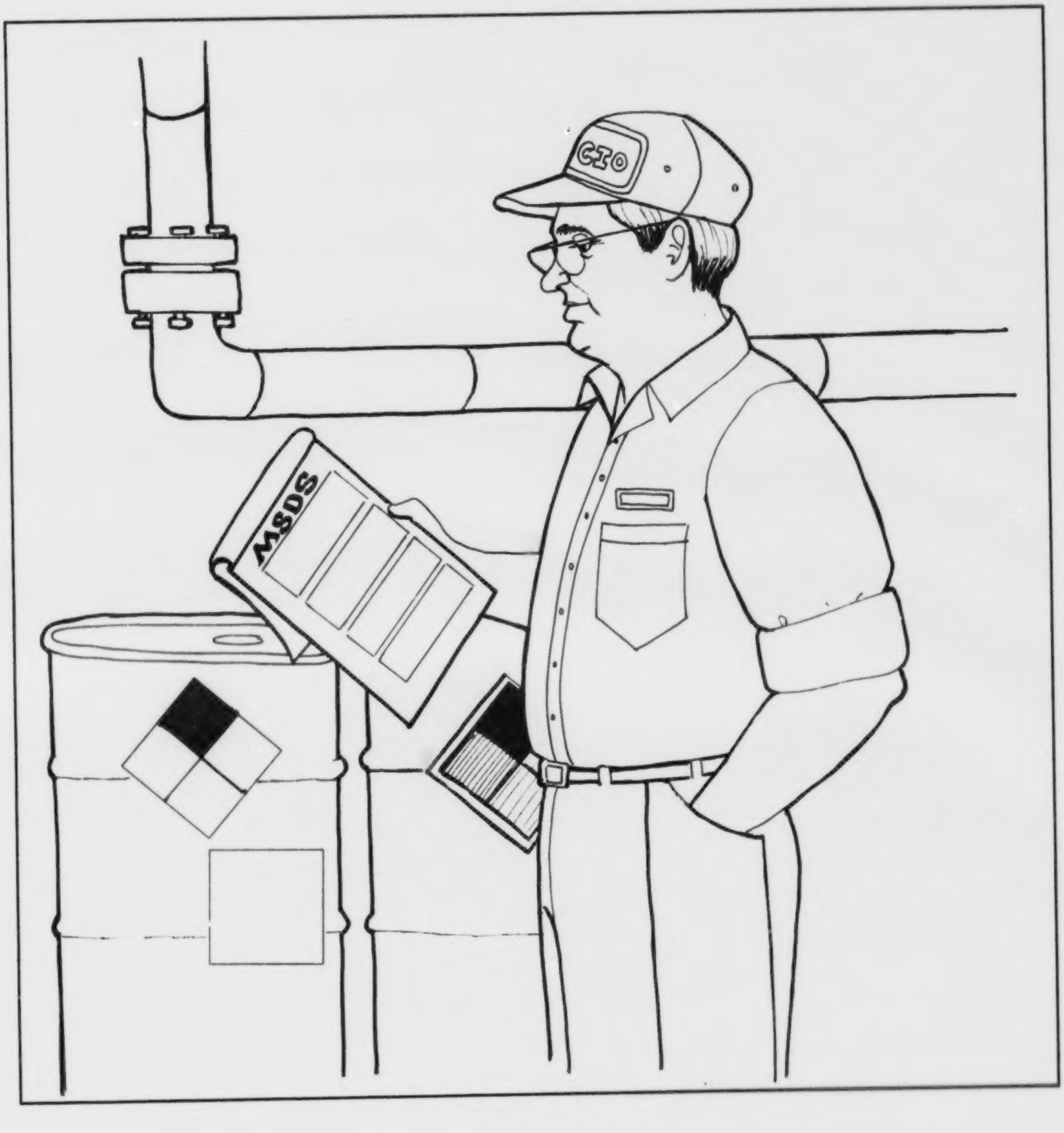
Job: Nurse's aide
Education: High school and AA degree from community college

Alberta's Story

"I managed to get through college with poor reading and writing skills. I came across as a very intellectual, intelligent person. I always had to cover up an awful lot to keep people from knowing that I was a poor reader and writer. I used to carry a book around with me. I dreamed of some day being a really good reader.

"I was hired as a community health worker. Somehow I always knew or said the right thing to keep anyone from finding out about my poor academic skills. But my poor writing skills were a great hindrance. I would be reading some technical information and would always run across words that I couldn't pronounce.

"The hardest part of my job involved charting patients. I managed by keeping a list nearby to help with the spelling and definition of the appropriate words."



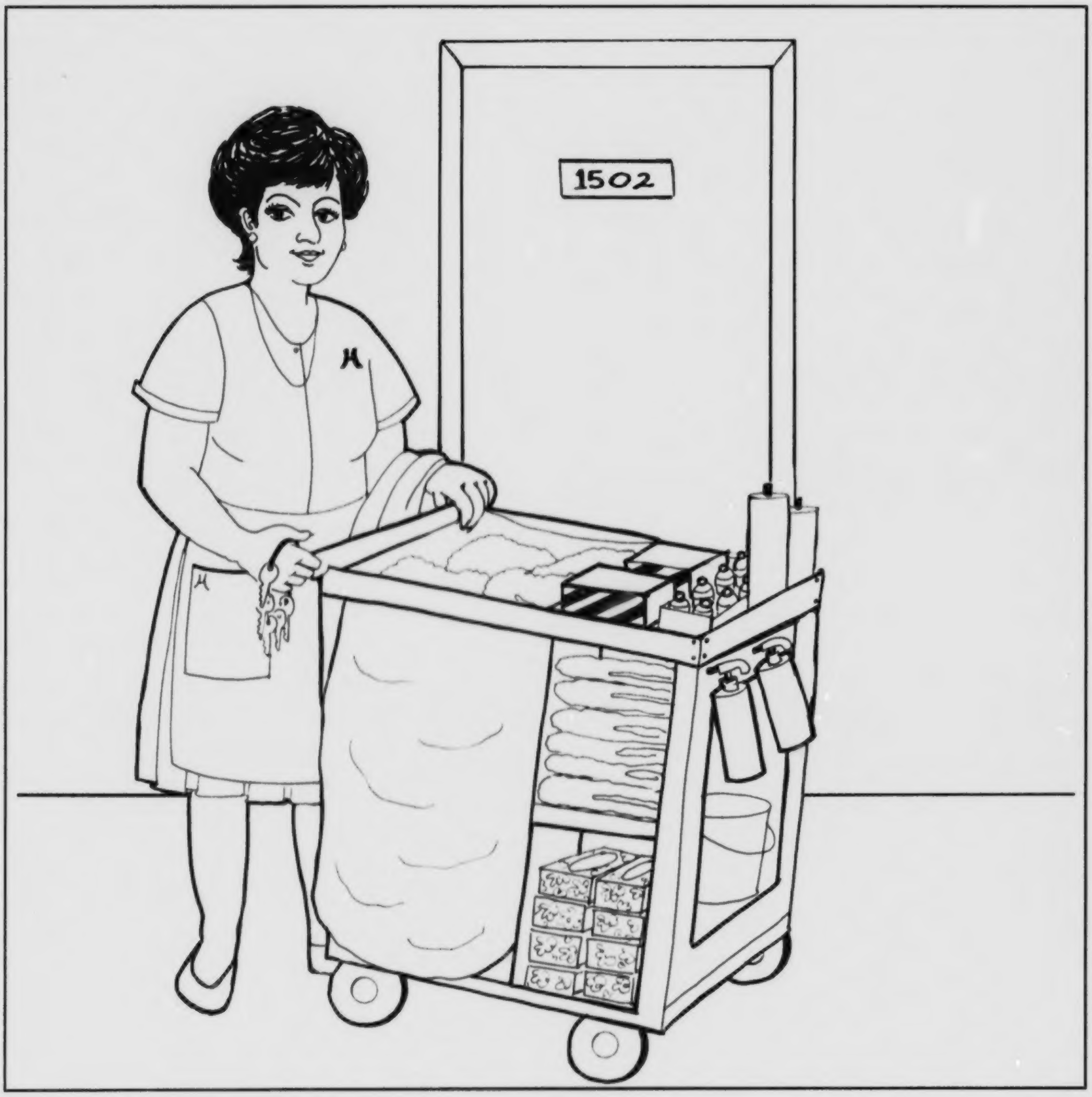
Hank

Job: Retired pipefitter
Education: Less than 9th grade

Hank's Story

"I worked 38 years in the shipyards as a pipefitter. I'm retired now, but I've been a member of the union for 40 years. All I knew how to read was my name, where I lived, and stuff like 'pipe' and 'gasket,' but that did not hold me back. A while back I even invented something. Have you ever seen those lights on grinders? Well, you see, this is a safety device I invented so that you know when a grinder is on or off. I invented something else too. This was a tool to go over a grinder to blow all the dust away from you.

"Basically at the job, me and my buddies had lots of morning 'huddles' with other workers to learn how to do the job at hand. Friends helped me deal with reading and writing on the job. What I had trouble with was making out the labels on toxic waste barrels and cans. I had friends, though. I would help them, they would help me. I worked in a big shop as a pipefitter and then as a shop man. If there was something I didn't understand, there was always somebody there to help me read it and tell me what it meant."



Isabel

Job:	Hotel maid
Education:	No formal education

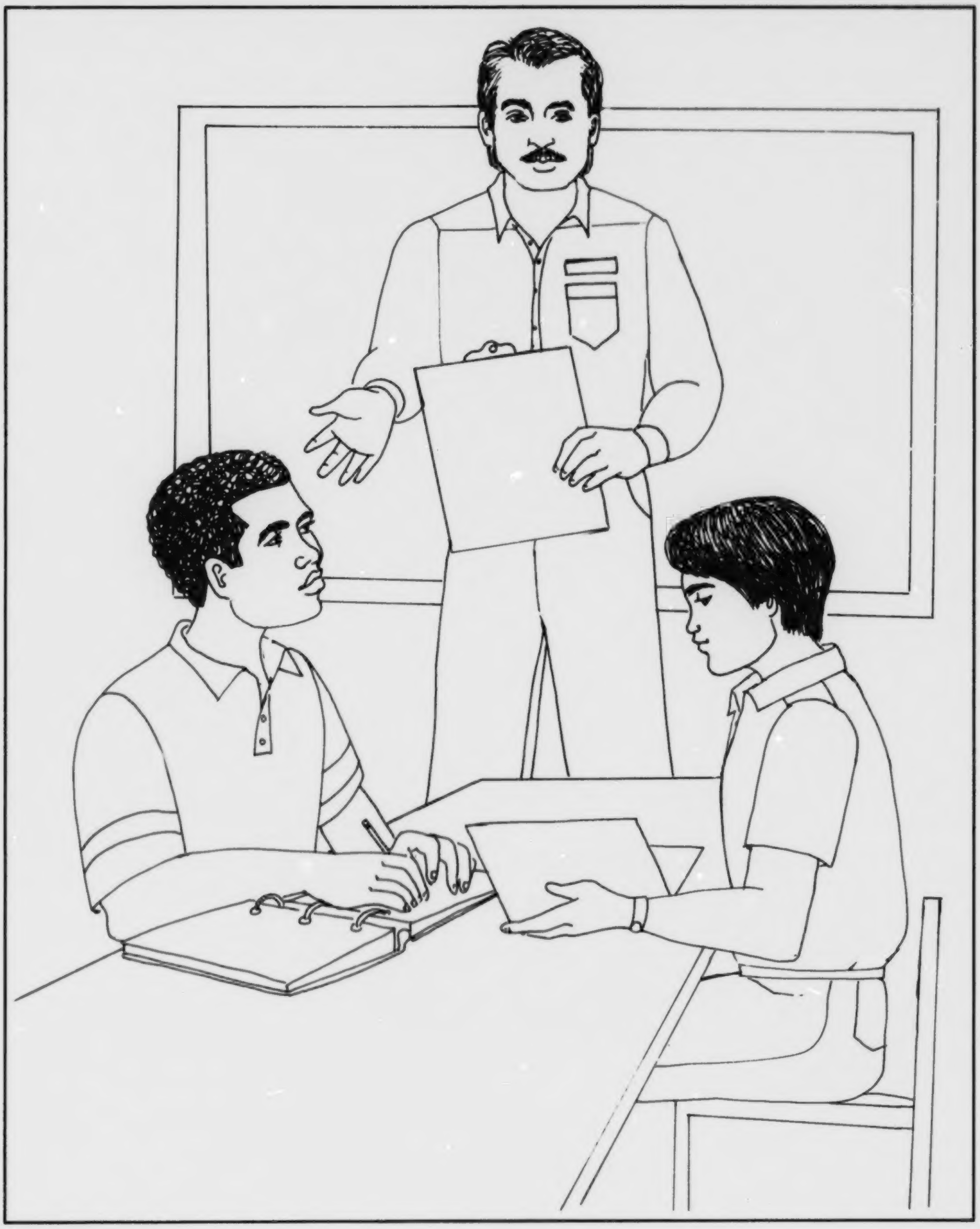
Isabel's Story

"I never had the opportunity to go to school. I started working with my grandmother from the time I could remember. Because I am a great cook, I opened up a little cafe. Not being able to read and write never stopped me. I would just memorize everybody's orders. Adding up what they owed me was easy too, as long as I did it in my head.

"I came to the United States to make more money. I went to work in the fields, which did not require reading and writing. And almost none of my co-workers knew how to read and write.

"Then I got a job as a maid. I worked in Reno at the Hilton Hotel. I worked with my friend Mari who spoke a little English. I knew no English and I did not read or write English or Spanish.

"One of my first embarrassments was when we all had to form a line to sign in. It was hard for me to sign. The people behind me always yelled that I took too long to sign my name, so I almost never got to complete my signature. This was when the fact that I could not read and write started bothering me."



Joe

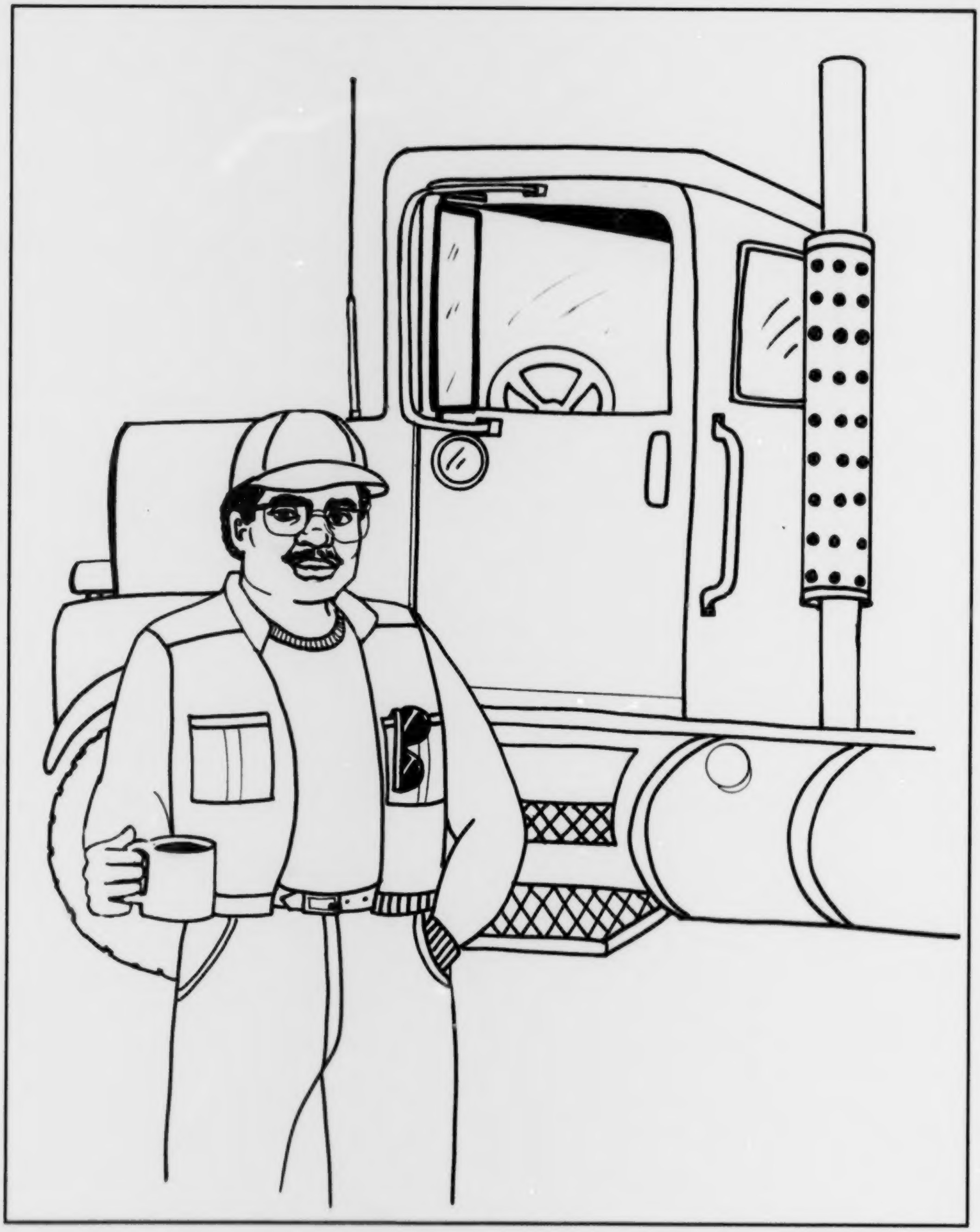
Job: Supervisor
Education: High school graduate and technical certificate

Joe's Story

"My reading and writing skills were never good, but I still managed to get through high school and even went to a trade school. I got a technical certificate and landed a job at a refinery. Every month I had to complete an inventory list. I had problems with spelling, so I kept a list of terms I had trouble with on a clipboard.

"As I moved through the ranks — from a line man to a supervisor — I gained a lot of respect. Even though I had low reading skills, I knew I had a lot of leadership ability. I felt like people at work respected me, and I got along well with everyone.

"Once I was promoted, I found myself in a lot more situations that involved reading and writing. One thing I had to do was hold safety meetings with the crew every week. Sometimes I had to write on a chalkboard in front of the group or read something aloud. I was always worried that I would spell something wrong or make a mistake. I hated feeling that kind of pressure."



Kelly

Job:	Truck driver
Education:	Less than 9th grade

Kelly's Story

"I'm a truck driver and I can't read street names. I can see a street name at such and such address, but when I get on the freeway and I'm driving down the freeway, I'm asking, is that a word? I've been driving a truck for 25 years!

"You know, I kept it a secret inside of me, and all of my friends thought I was the last person in the world who would have a reading problem. In fact, they would come up to me and say, 'I can't believe some people don't know how to read.' And I'd say, 'Yeah, it's terrible, isn't it?' And all this time I'm thinking, 'Yes, you idiot!' I just couldn't keep doing it. So I finally said to myself, you better get off your duff and go back to school and start to learn because you're not getting any younger."

What Can Trainers Learn from These Stories?

- Avoid making assumptions about workers' reading and writing abilities based on their years of education.
- Remember that a lack of literacy skills does not mean a lack of job skills or intelligence.
- Always give workers the benefit of the doubt. Assume they are capable of learning complex technical information if they really need it.
- Learn more about the methods workers have developed to help them understand technical information on the job. Use them in developing materials and training.
- Encourage teamwork in training situations. Many workers are used to getting and giving help with reading and writing problems.
- Recognize that many workers would like to improve their reading and writing skills. Learn more about local literacy resources, and make that information available during trainings. (See Chapter 8.)

Literacy Terms and Statistics

The workers' stories describe their feelings and experiences with literacy issues in their lives. Some literacy experts would use terms such as "functionally illiterate" to describe these workers' literacy levels. This section defines the most commonly used literacy terms and includes some statistics.

Functional literacy is defined as the ability to read, write and speak in English. This ability, along with other skills, enables an individual to participate fully on the job and in society. It also allows an individual to achieve his or her goals and potential. (*National Literacy Act*, 1991)

Illiteracy is a term used to describe adults who are not able to read and write at all. Estimates are that ten percent of all adults in the U.S. fall into the category of complete illiteracy. (*Adult Literacy in America*, 1993)

Readability formulas are tools used to measure various parts of a text, such as the number of words per sentence or the number of multi-syllable words. Based on the results, a grade or reading level is assigned to the text. (See Chapter 5 for more information.)

For example, readability formulas have shown that a driver's license manual is written at a sixth-grade reading level. This means that the "average" sixth-grader should be able to read and comprehend 75 percent of the content. (Steadman and Kaestle, *Literacy in the United States*, 1991)

continued

Reading level is a term used to describe a person's reading ability. For example, people who can read the driver's license manual may be described as reading at a sixth-grade level.

People who can read at a fourth-grade level or below are often defined as **"functionally illiterate."** Those who can read between a fifth and eighth-grade level are defined as **"marginally literate."**

It is estimated that nearly one-third of the U.S. adult population reads at or below the eighth-grade reading level. (Bruening, *Occupational Hazards*, 1989)

The Debate About Literacy Definitions and Statistics

Literacy experts and educators are not in agreement about literacy statistics and definitions. Many have raised three important questions:

1. **How accurate are current literacy statistics?**

Literacy statistics vary widely. For instance, depending on the study you read, estimates of the number of "functionally illiterate" adults in the U.S. range from 1 million to 90 million!

Statistics depend on the definition of literacy that is used and how literacy is measured. The estimates of how many people can read depend on what questions people are asked.

Giving someone a reading test, for example, will produce one result. Asking people if they can read or how much school they've completed, however, may produce entirely different results. (Office of Technology Assessment, 1993)

2. Are grade-level measurements an accurate way to assess people's literacy skills?

Many experts point out that literacy is not the same as grade level. They argue that literacy ability depends more on **knowledge of the topic** than a particular grade level.

For instance, many people with a college education struggle with insurance or tax forms even though they have the educational level necessary to read them. Others with an eighth-grade education may be able to read college-level technical manuals because they have some knowledge of the topic. Therefore, many literacy experts are moving away from the grade level measurement. (Office of Technology Assessment, 1993)

3. Can we find more useful ways to define literacy?

Literacy is not an "all or nothing" condition. Being literate involves many different skills. Terms like "illiterate" often define people in narrow ways based only on a measurement of reading ability or level of education. These terms also carry a strong stigma. As a result, many people hide their difficulties with reading and writing. (Sarmiento and Kay, *Worker-Centered Learning*, 1990)

Many literacy experts have worked together on a new nationwide survey of literacy in the United States. The U.S. Department of Education report, *Adult Literacy in America*, was released in September 1993. It received widespread attention from educators and policymakers.

continued

The report presents the results of the National Adult Literacy Survey (NALS) and defines literacy in a new way. It moves away from the grade-level definition of literacy. Instead, NALS defines literacy based on daily life performance tasks involving speaking, reading and writing English and using math skills.

The NALS study estimates that 90 million adults in the U.S. (almost half the adult population) have difficulties with basic literacy tasks. These tasks range from the ability to read a bus schedule to making out a bank deposit slip. (*Adult Literacy in America*, 1993)

☞ Additional resources on **Literacy** are listed at the end of this chapter.

Linking Health and Safety to Literacy

We began this manual with some facts about health and safety and literacy. The questions and answers in the following section expand on that information.

1. **How many U.S. workers get hurt or die on the job each year?**

According to the AFL-CIO publication, *Death on the Job* (1992), one worker in the U.S. dies on the job every hour of every day. More than 10,000 workers are killed on the job every year.

A worker is injured on the job every five seconds. Six million workers are injured at the workplace each year. Injury rates today are at their highest level in ten years.

Currently, the federal Occupational Safety and Health Administration (OSHA) receives only $300 million per year to protect the health and safety of nearly 100 million workers. As a result of funding cuts, OSHA has fewer than 1,000 inspectors for nearly six million workplaces. At this rate, OSHA can inspect each workplace only once every 84 years. (*Death on the Job*, 1992)

People often think that individual workers themselves are to blame if they get hurt or killed on the job. But most investigations show that accidents and deaths could have been prevented. Workers need proper equipment, training and employer support to do their jobs safely.

continued

2. Is an employer required to train workers with literacy problems about hazards on the job?

An employer is responsible for training all workers. This includes those who cannot easily read or understand English.

According to an OSHA spokesperson, "The employer has to do whatever it takes to inform workers about chemical hazards on the job. This includes training workers about how to use sources of chemical information like Material Safety Data Sheets (MSDSs). If employees can't read, then the employer has to instruct them in some other way. Handing out a safety pamphlet or manual is not sufficient training. There has to be some other, more significant communication going on." (Bruening, *Occupational Hazards*, 1989)

3. What is the reading level of Material Safety Data Sheets (MSDSs)?

MSDSs are a major source of chemical information at the worksite. In a report to OSHA, researchers analyzed 100 MSDSs for readability. The average Material Safety Data Sheet was found to be written at a college level. These MSDSs ranged in length from a single page to 30 pages.

In a related study, workers were asked to take an open-book test on a series of MSDSs. The workers found that 40 percent of the information was not understandable. (Kearney, *Final Report*, 1991)

4. What about the reading level of other health and safety materials?

Many health and safety materials are also written at a high reading level. In 1992, LOHP reviewed over 25 health and safety materials produced by government agencies, unions, worker educators and private safety companies. Using the Fry Readability Test (see Chapter 5), we found that the materials required an average of a college reading level. Only four of the samples (16%) were at or below the eighth-grade level.

☞ Additional resources on **Health and Safety** are listed at the end of this chapter.

The Impact for Trainers

These facts point to the gap between the reading abilities of many workers and the materials designed to train them. These materials are not useful sources of information for the 90 million adults in the U.S. with reading and writing difficulties. They can also be hard to read for many other workers.

"For health and safety professionals and union activists, this means that tens of millions of workers are surrounded daily by reading materials, such as chemical labels, warning signs, and MSDSs that they may not fully understand....The need has become acute to educate all workers about how to protect themselves on the job, despite language and literacy barriers." (*Wallerstein, American Journal of Industrial Medicine,* 1992)

Chapter 3 discusses how to include questions about literacy in your needs assessment. This is the first step in linking literacy to health and safety training.

To Sum Up:

- Current statistics suggest that one-third to one-half of U.S. workers have difficulties with reading and writing.
- Avoid making assumptions about workers' literacy skills based on years of education.
- Literacy definitions and statistics are changing.
- Injury and illness rates are increasing, making health and safety communication more important than ever.
- It's the employer's legal responsibility to train workers about chemical hazards on the job, regardless of literacy level.
- Most health and safety materials are written at a college reading level.
- Many U.S. workers have difficulty reading current health and safety materials.
- Technical training materials that are full of jargon miss the mark. We must find other ways to present written information.
- We can't afford to let literacy barriers get in the way of educating workers.

Resources

Literacy

Adult Literacy in America: National Adult Literacy Survey (NALS). See listing under Office of Educational Research and Improvement.

Bruening, John C. "Workplace Illiteracy: The Threat to Worker Safety." *Occupational Hazards*, October 1989, pp. 120-25.

Hull, Glynda. *Hearing Other Voices: A Critical Assessment of Popular Views on Literacy and Work.* Berkeley, CA: University of California, National Center for Research in Vocational Education, November 1991.

National Literacy Act of 1991. Public Law 102-73, Section 3.

Office of Educational Research and Improvement. *Adult Literacy in America: National Adult Literacy Survey.* Washington, DC: U.S. Department of Education, September 1993.

Office of Technology Assessment (OTA). See listing under U.S. Congress.

Rabin, Annette T. "Consequences of Adult Illiteracy Reach Far into the Marketplace." *Occupational Health and Safety*, June 1992, pp. 36-42.

Sarmiento, Anthony and Kay, Ann. *Worker-Centered Learning: A Guide to Workplace Literacy.* Washington, DC: AFL-CIO Human Resources Development Institute, 1990.

Steadman, Lawrence C. and Kaestle, Carl F. *Literacy in the United States.* New Haven, CT: Yale University Press, 1991.

U.S. Congress, Office of Technology Assessment. *Adult Literacy and New Technologies: Tools for a Lifetime*, (OTA)-SET-550. Washington, DC: U.S. Government Printing Office, July 1993.

continued

U.S. Department of Education, Adult Learning and Literacy Clearinghouse. "Adult Literacy in the U.S.: A Little or a Lot?," unpublished document, undated.

Wallerstein, Nina. "Health and Safety Education for Workers with Low-Literacy or Limited-English Skills." *American Journal of Industrial Medicine: Empowerment Approaches to Worker Health and Safety Education*, November 1992, pp. 751-65.

Health and Safety

AFL-CIO Department of Occupational Safety and Health. *Death on the Job: The Toll of Neglect: A State-by-State Profile of Worker Safety and Health in the United States.* Washington, DC: April 1992.

Bruening, John C. "Workplace Illiteracy: The Threat to Worker Safety." *Occupational Hazards*, 1989, pp. 120-25.

Canadian Centre for Occupational Health and Safety. "Literacy and the Right-to-Know." *Exposure*, Spring 1991, pp. 4-6.

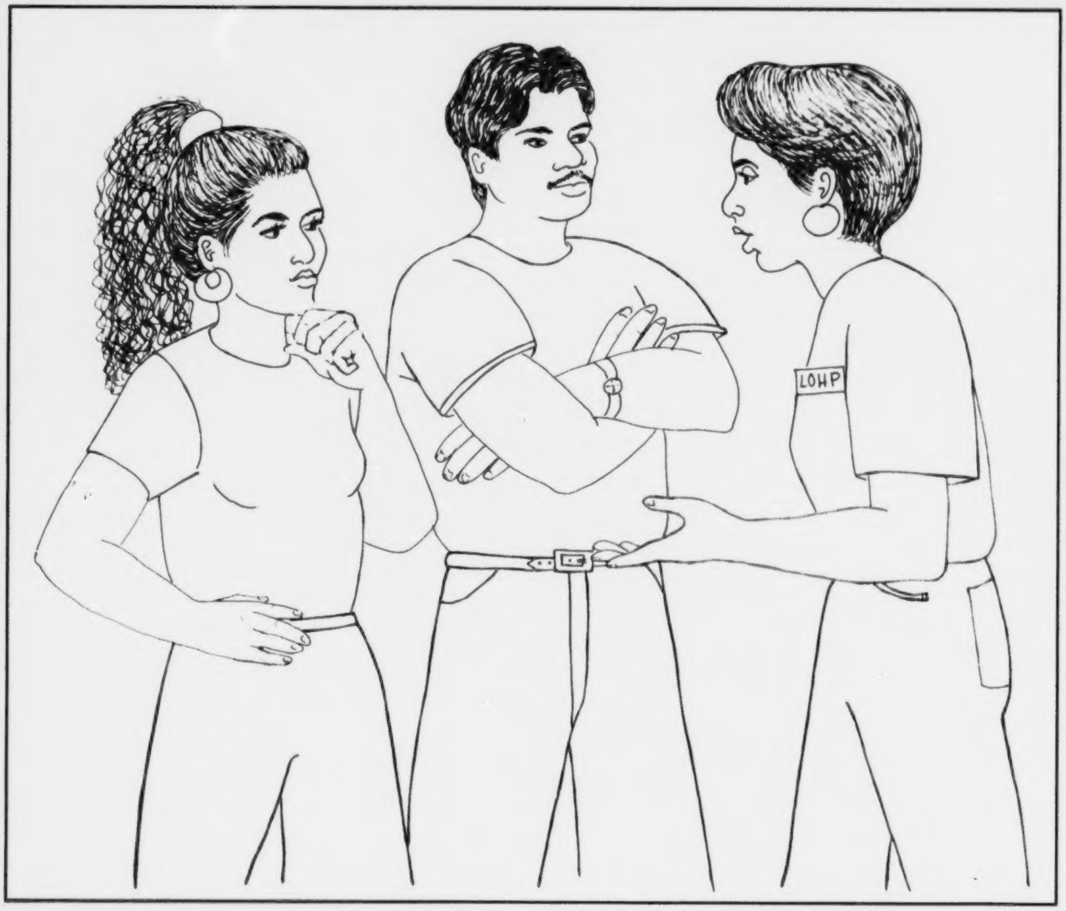
Kearney, Inc. *The Accuracy of Material Safety Data Sheets: Draft Report.* Alexandria, VA: U.S. Department of Labor, Occupational Safety and Health Administration, Office of Program Evaluation, January 1991.

Kearney, Inc. *The Comprehensibility of Material Safety Data Sheets: Final Report.* Alexandria, VA: U.S. Department of Labor, Occupational Safety and Health Administration, Office of Program Evaluation, March 1991.

Sattler, Barbara. "Rights and Realities: A Critical Review of the Accessibility of Information on Hazardous Chemicals." *Occupational Medicine: State of the Art Reviews*, April-June 1992, pp. 189-96.

CHAPTER 3

Getting to Know Your Audience



> "As I learned more about literacy, I began to wonder how I could identify nonreaders. Then I realized that wasn't really the issue. I had to change how I presented information so that I could be sure of reaching everyone."
>
> *—Diana, Trainer*

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In This Chapter, We Will Discuss:

- Trainers' experiences with literacy and needs assessment.
- Workers' thoughts about literacy and needs assessment.
- How to link literacy to your needs assessment.
- How to use the results to improve your materials and training.

Needs Assessment

A needs assessment involves interviewing members of your audience to learn more about their knowledge, experience, learning styles and interests.

Before writing this publication, LOHP conducted a needs assessment with two groups: health and safety trainers and workers in literacy programs who had taken part in health and safety training.

We asked health and safety trainers two questions:

- How much do you know about the reading and writing skills of your audience?
- What are the challenges of training workers with reading and writing difficulties?

Trainers' Concerns About Literacy

Trainers shared several stories about their experiences with literacy issues:

> "I know that some people in our courses have literacy problems. I look for clues from people, but I try not to make assumptions about their reading and writing skills. Sometimes people may have problems reading aloud or won't volunteer to write down answers for the group. I'd like to know how I could ask people about their literacy skills so I can help them if they're having problems."
> *—Maggie, Trainer*

> "I noticed in a training on MSDSs that one worker could not read. He was isolated from the group process because I don't think the other workers in the small group knew what was going on. My biggest challenge as a trainer is figuring out what to do in that kind of situation."
> *—Antonio, Trainer*

These stories raised two major issues addressed by many trainers who responded to the needs assessment:

- How can we learn more about the literacy skills of participants in our courses?

- How should I approach someone who I think has reading and writing problems?

LOHP turned to workers for answers to these questions.

Workers' Concerns About Literacy

"We've all hidden our writing and reading disabilities. And we are not going to stand in front of the people in a course, especially the people we work with, and say, 'Hey guys, guess what? I can't read or write.'"

—*Kelly, Truck driver*

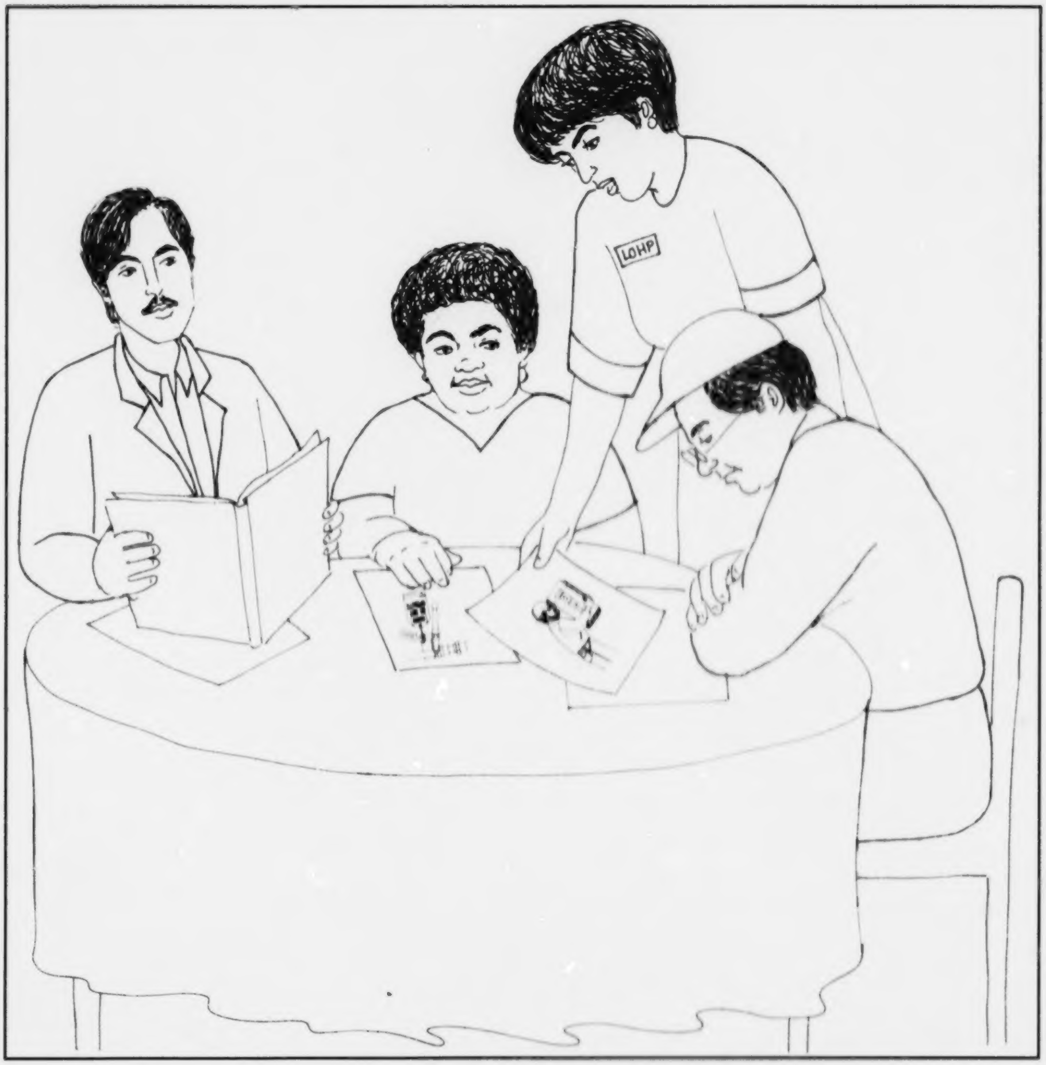
LOHP held three focus groups with workers who identified themselves as having problems reading and writing. The workers offered some important insights and advice for trainers.

Common Themes from Workers

- People hide their reading and writing problems.
- Many workers have developed incredible coping skills that keep others at the workplace from noticing these difficulties.
- People with literacy problems know that many others share the same problems — even if health and safety trainers aren't convinced that they do.

continued

- Most people dislike the idea of being publicly identified as having a literacy problem.
- Some people are willing to reveal their literacy problems to others, but not when they are forced to do so.



Lessons for Trainers

"There are going to be people within any group on a job who will have reading problems. You may not be able to identify them. Instead, you need to change the way you train."

—Alberta, Nurse's aide

- Assume that every training group will have participants with a range of reading and writing skills.
- Don't assume you can always identify which individuals have reading and writing problems.
- Design courses and materials to make **everyone** feel comfortable and able to participate.
- Before a training, take the time to learn more about the audience.
- Find out what types of written materials they will find most useful.
- Avoid putting people on the spot. If you realize that someone is having problems reading or writing, quietly offer assistance or talk privately during a break.
- Train in ways that don't depend on literacy skills.

Linking Literacy to Needs Assessment

Doing a needs assessment can help you learn more about the kinds of materials and methods that work best with your audience. Many trainers are familiar with the different ways to conduct a needs assessment:

- Focus groups
- Interviews or discussions with workers, union representatives, shop stewards, management, or other trainers
- Surveys
- Worksite walkarounds or evaluations
- Advisory committees or planning teams.

Many trainers have no problem asking questions about health and safety hazards. However, they may be uncomfortable asking questions related to workers' literacy needs. The following are some sample questions to ask your audience. Consider adding them to your current needs assessment.

Sample Needs Assessment Questions

Health and safety

- What type of work do you do?
- How long have you been doing this work?
- What hazards exist at your job?
- What health and safety issues concern you most?
- What do you think you need to know to protect yourself from hazards on the job?

Questions related to literacy

- How have you learned the information you need to perform your job correctly and safely?
- What type of training have you received about hazards on the job?
- What training methods are most helpful for you?
- What types of written materials do you use at work? Which are easiest for you to understand?
- What kinds of written materials do you find difficult? Is it necessary for you to understand and use them on the job?
- How do you learn best? Describe your learning style.

Other Tips for Gathering Information

Focus group participants also talked about the importance of knowing **why** trainers are asking questions. They also wanted to know **how** trainers might use the information. They gave us the following advice about conducting a needs assessment:

- Meet with workers. Find a place where workers can talk openly. This may be somewhere on the job site, at a union hall, or at another location away from work.
- Clearly identify who you are, why you are there and the organization you represent.
- Talk with the shop steward or union representative.

- Ask individual workers about things they have done to make their jobs easier. For example, workers may have developed their own lists to help them with technical terms used on the job.

- Bring along some educational materials that you plan to use in the training session. This can help you get reactions and feedback.

- Ask employees open-ended questions about how their co-workers will react to the educational materials and training program you are designing. Asking about co-workers may make people feel less "on the spot" about their own literacy skills. For example, you could say:

    1. We want to design a health and safety training session that will be useful to you and your co-workers. What do you think they would like to learn?

    2. How do you think your co-workers would respond to this particular handout or training activity? Will they be familiar with the terms used, or do we need to explain what some of them mean? Which ones?

    3. What would work best with your co-workers:

        ☐ Videos, slides, or pictures?
        ☐ Written materials?
        ☐ Hands-on activities?
        ☐ Other?

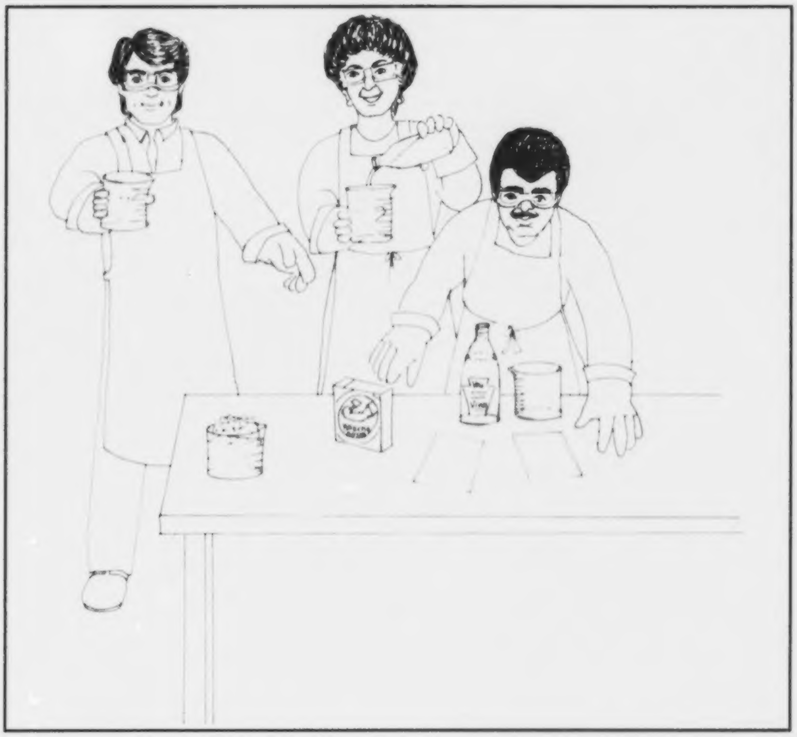
        Which of these would work best for **you**?

☞ Additional resources on **Needs Assessment** are listed at the end of this chapter.

Using the Results of Your Needs Assessment

Asking these questions won't tell you which individuals have difficulty reading and writing. However, the information you gain can be used to adapt or change your health and safety materials and activities. The following are two examples from trainers:

> "I found out from talking to workers that people learned best by seeing something demonstrated and then doing it themselves. I wanted to show people how chemicals react instead of just describing it. I did an experiment using vinegar and baking soda that created a reaction. Each participant then did his or her own experiment. The light bulbs went on. People told me they'd never understood how chemicals reacted until they saw it happen." — *Morris, Trainer*



> "I needed to design a training for construction workers about asbestos. I found out from my needs assessment that workers had different reading skills. I changed an activity that used reference books to one that offered a choice of reading materials. I included the same kind of short factsheets I'd seen some people use on the job. Now they had a choice of using the books or the more familiar factsheets." *—Sharon, Trainer*

These stories demonstrate how you can use your needs assessment results. The following chapters offer guidelines on developing materials and training programs with literacy in mind.

To Sum Up:

- Take the time, whenever possible, to do a needs assessment of your audience.
- Ask questions to help you learn more about how people learn best.
- Ask your audience in advance about materials they will find useful.
- Assume that some members of any training group may have problems reading and writing.
- Use the results of your needs assessment to help you adapt your training.

Resources

Needs Assessment

Davis, Larry Nolan. *Planning, Conducting and Evaluating Workshops.* San Diego, CA: University Associates Incorporated, 1974.

Krueger, Richard A. *Focus Groups: A Practical Guide for Applied Research.* Newbury Park, CA: SAGE Publications, Inc., 1988.

Vella, Jane. *Learning to Teach: Training of Trainers for Community Development.* Washington, DC: O.E.F. International, 1989.

Wallerstein, Nina and Rubenstein, Harriet L. *Teaching About Job Hazards: A Guide for Workers and Their Health Providers.* Washington, DC: American Public Health Association, 1993.

CHAPTER 4

Developing Easy-to-Read Materials

"When you're writing a manual, try to use everyday words. Instead of saying 'chemicals can permeate gloves,' why not explain the term and say 'chemicals can go right through gloves.'"

—*Joe, Supervisor*

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In This Chapter, We Will Discuss:

- How to write materials that are easy to read.
- How to design your materials so they are visually appealing.
- How to use illustrations to help explain your text.

Developing Easy-to-Read Materials

> "I remember the first factsheet I developed on noise. I described the workings of the inner ear in great detail. When I asked workers what they thought, they said, 'We don't know what you're talking about. Is this some kind of medical factsheet?' I learned a lesson about how to develop materials based on what people **need** to know and in a form that they can understand."
> —*Joan, Trainer*

Developing easy-to-read educational materials is not an easy task. As health and safety trainers, we often feel that workers need to know **all** the technical information available on a topic.

This is not to suggest that you minimize important concepts. We do recommend, however, a sharper focus on what is **essential to know.**

The following pages describe the steps involved in developing easy-to-read materials. Many of the tips in this section are adapted from two recent publications on literacy: *Just Say It!* and *Teaching Patients with Low Literacy Skills.* (See Resources at the end of this chapter.)

Writing Tips

1. Base the content on the workers' most important needs.

Above all, keep workers' own concerns in mind. Conduct a needs assessment in advance to find out what they want and need to learn about. Leave out anything that is not of critical importance.

2. Establish your "priority message."

Priority messages present the most important information about a problem and discuss how it could be solved. An effective priority message:

- is short
- provides enough information
- gives suggestions for change
- is easy to remember.

Example:

> "Lead dust is harmful and can get on your clothes. Change your clothes before leaving work."

Build your text around this priority message. Include only material that is relevant to it. Do not offer so much information that a reader will feel overwhelmed. Refer back to the priority message whenever you start to get sidetracked.

continued

3. Organize your text into short, logical sections.

Use headings or subtitles to help organize your text. Bulleted lists can also help readers to pick out important concepts.

Example:

Exposure to lead can harm:

- the nervous system
- the reproductive system
- the kidneys
- the blood
- the digestive system.

4. Use words that are easy to understand.

Many long words have synonyms that are much shorter and easier to understand.

Examples:

- **doctor** could be substituted for **physician**
- **clean** for **sanitary**
- **burn** for **incinerate.**

5. Define technical terms.

Talk to your audience to find out the technical terms workers already understand. For example, health care workers may use medical terms every day. Chemical workers may already be familiar with terms like "ignitable" and "corrosive." Ask workers which terms they prefer to use on the job. This will help you decide which terms need to be defined.

Examples:

- Asbestos is a **carcinogen** (something that causes cancer).
- Sulfur dioxide is a **respiratory irritant** (something that bothers the lungs).
- Carbon dioxide is a **simple asphyxiant** (something that stops air from entering the lungs).

6. Keep sentences short and simple.

Long sentences often have subordinate clauses. These can be difficult to read and understand.

Example:

Subordinate clause	**Rewritten text**
Some pesticides, which have caused harm to the environment, have also been found to be harmful to humans.	Some pesticides harm humans as well as the environment.

continued

7. Use a conversational style and the active voice.

Write in the kind of language your audience uses. Stick to a conversational style and active verbs.

Example:

Nonconversational (passive voice)	**Conversational (active voice)**
Asbestos has been found to be a carcinogen.	Asbestos causes cancer.

☞ Additional resources on **Developing Easy-to-Read Materials** are listed at the end of this chapter.

Design Tips

The design of your publication is just as important as its content. Most workers in our focus groups agreed that appearance makes a difference. Using ample white space, illustrations and headings in your publication will encourage people to read it.

"If you have a paragraph that is very important for the training, highlight it in special colors, box it, or put it in bold print. Make it stand out in some way."
—Isabel, Hotel maid

1. **Use a large, serif typeface for your main text.**

We recommend a **serif** typeface (letters with "feet") for the main text. The "feet" give each letter a more distinctive shape. They guide the reader's eye from letter to letter. Use a size of 12 to 14 points for normal text.

continued

Serif examples:

- This sentence is typed in a 13-point Times Roman typeface.
- This sentence is typed in a 13-point Palatino typeface.

A sans-serif typeface (letters without "feet") is best reserved for titles and headings.

Sans-serif examples:

- A heading typed in a 13-point Avant Garde typeface looks like this.
- A heading typed in a 13-point Helvetica typeface looks like this.

In this publication, we use a 13-point serif typeface (Bookman) for the main text. Titles and headings are in an 18-point sans-serif typeface (Avant Garde).

2. Emphasize important points with underlining, bold type, italics, or boxes.

Help your readers along by using underlining, **bold** type, or *italics* to emphasize important points. Boxes can also be used for emphasis.

Example:

In this publication, we use boxes to summarize the key points in a chapter.

3. Avoid underlining or using bold, italics, or all capital letters for large sections of text.

Underlined, **bold**, or *italic* type can be useful to emphasize a few words. However, we do not recommend them for several lines of text. Long stretches printed in these styles are harder to read than normal type. They slow the reader down.

Use all capital letters only for very short headlines. CAPITAL LETTERS ARE HARD TO READ IN LARGE BLOCKS OF TEXT BECAUSE EACH LETTER HAS NEARLY THE SAME HEIGHT AND SHAPE. Letters with different heights and shapes are much easier to read.

In this publication, we avoid printing entire sentences in capital letters. We use **bold** type to draw attention to key points or headings.

4. Use wide margins.

Be sure to include plenty of white space (margins) at each side of your text. Wide margins make reading easier on the eye. With wide margins, the text column is narrower and the eye does not have to travel as far.

In this publication, we keep our text to a width of five inches. We use a left margin of 1.25 inches and a right margin of 2.25 inches. The left margin is justified; the right margin is not. It's easier for readers to keep their place when the text has an uneven margin.

Illustration Tips

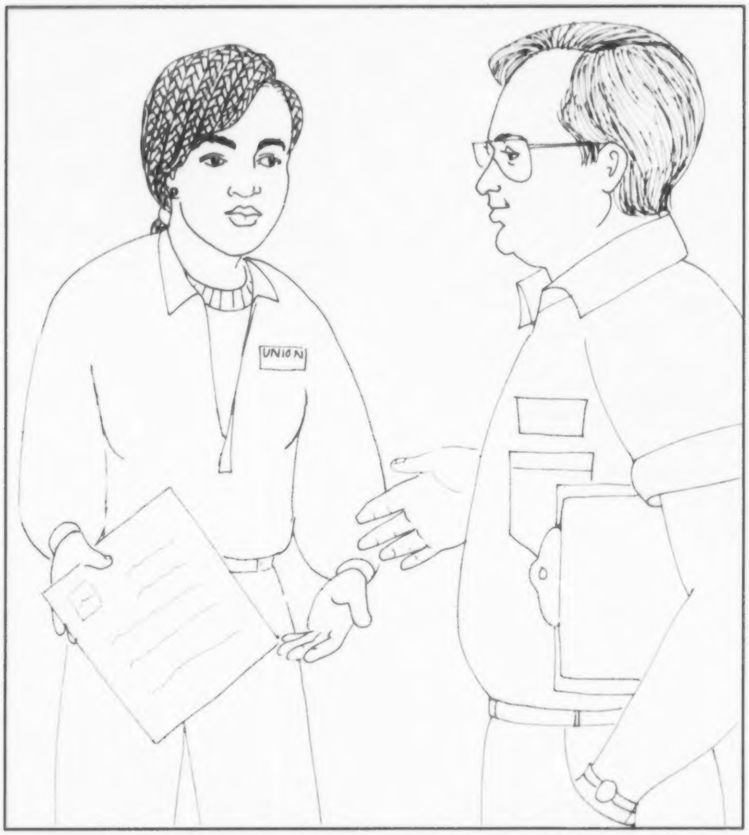
1. Use illustrations to help explain your text.

Graphics, drawings, or photos should be used only if they will help readers understand the text. Do not assume that an illustration will convey a clear message by itself. Provide clearly written text to accompany the graphic.

In this publication, we use illustrations to help explain our written message.

Example:

- Clearly identify who you are, why you are there and the organization you represent.

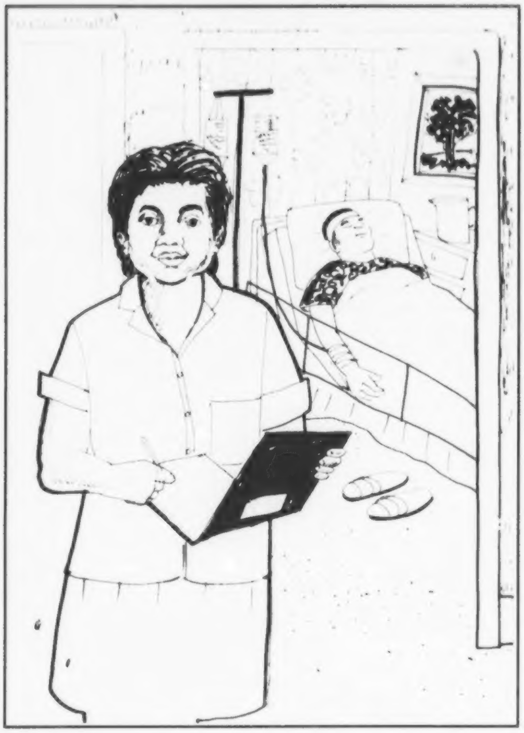


2. Use simple line drawings.

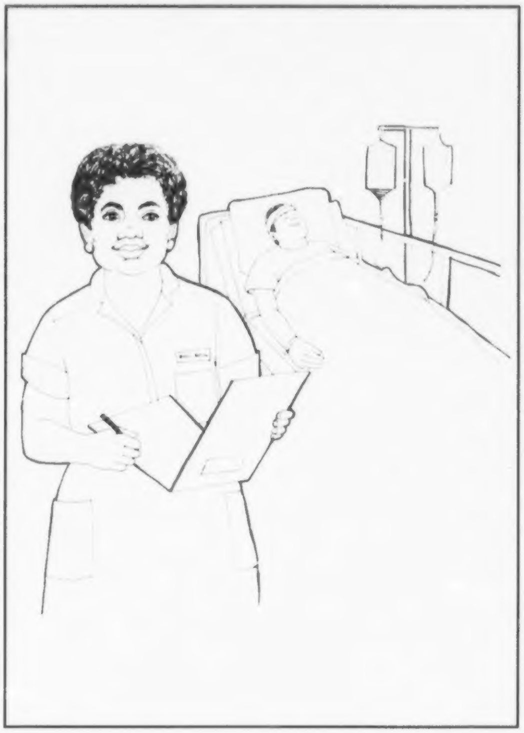
Illustrations should be simple and free of any clutter that could distract from the message. Avoid heavily shaded drawings, abstract drawings, "stick" figures, silhouettes and drawings with busy backgrounds. You may need to find an artist who specializes in line drawings.

Example:

Poor illustration



Better illustration



continued

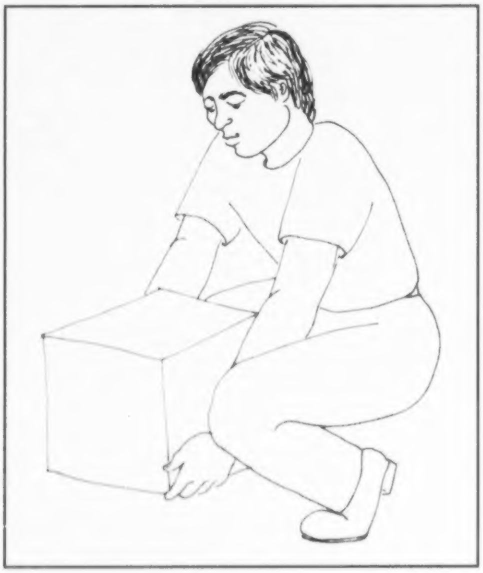
3. Illustrate the correct way to do things.

People who rely on pictures for explanation will often assume that a picture represents what is correct. If a picture shows someone lifting an object, for example, many people will assume that is the right way to lift.

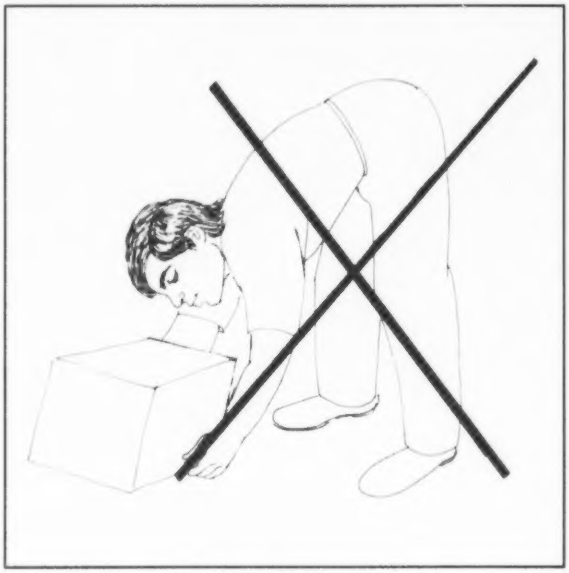
If you use an illustration as an example of what **not** to do, indicate this with a large X or Ø. Make sure any symbol you use is recognized by your audience.

Example:

Correct:



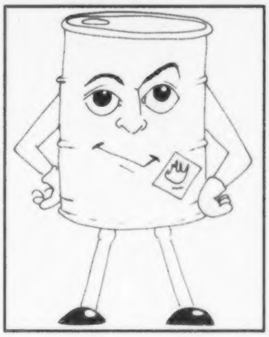
Incorrect:



4. Avoid cartoon figures.

Many publications use cartoon figures to help explain their text. Inanimate objects such as a barrel may "come to life" when hands, feet, or a face is added. Cartoons can complicate a message by introducing an irrelevant figure. They can be seen as insulting or may not be recognized by your audience.

Example:

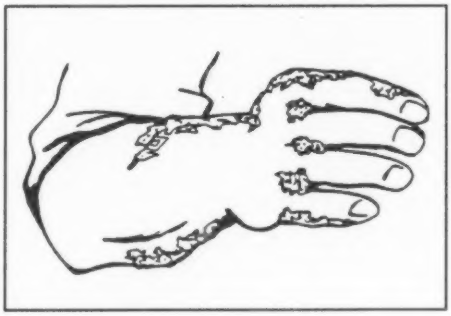


5. Show as much of the human body as you can.

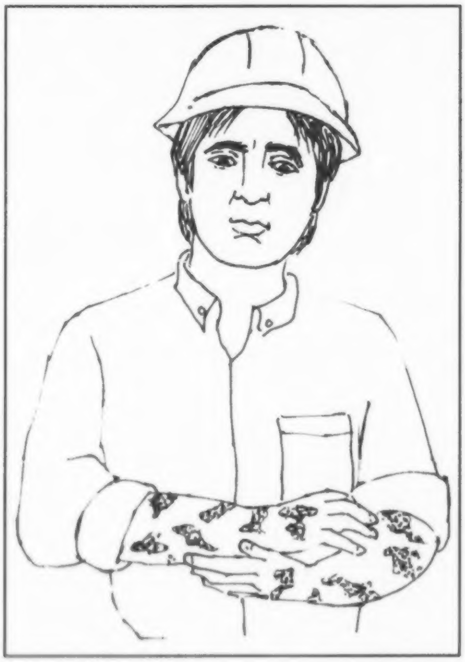
Try to draw enough of the body to be sure people can recognize what is shown. For example, when showing a rash, avoid showing just an arm, leg, or hand.

Example:

Arm



Body



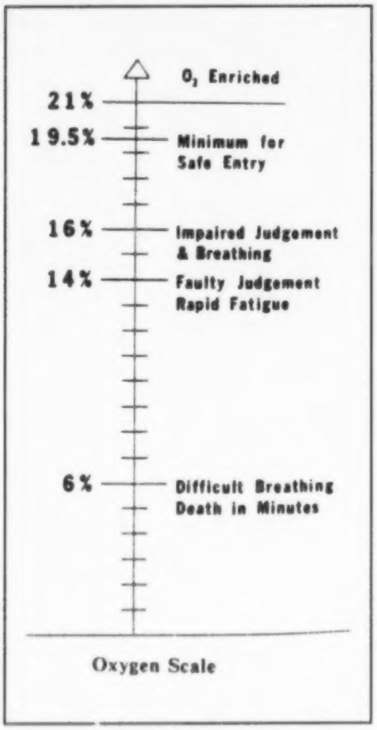
continued

6. Avoid abstract graphs or charts.

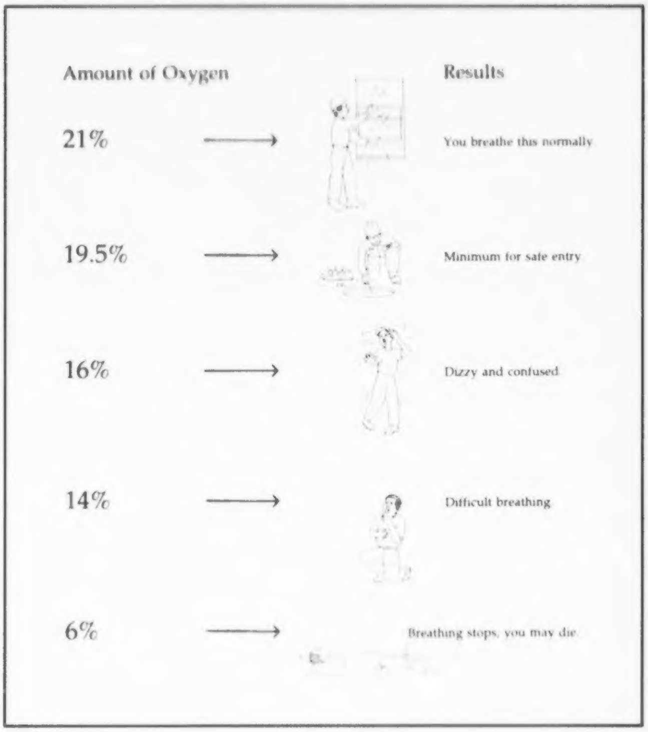
Look for ways to present graphs or charts in a more pictorial style. Talk with your audience to find out if they understand a graph before including it in your text. The following example was shown to a group of workers. It was redrawn based on their feedback.

Example:

Abstract graph



Pictorial graph


Amount of Oxygen
Results
21%
You breathe this normally
19.5%
Minimum for safe entry
16%
Dizzy and confused
14%
Difficult breathing
6%
Breathing stops, you may die

To Sum Up:

Writing Tips

- Base the content on the workers' most important needs.
- Establish your priority message.
- Organize your text into short, logical sections.
- Use words that are easy to understand.
- Define technical terms.
- Keep sentences short and simple.
- Use a conversational style and active voice.

Design Tips

- Use large type and a serif typeface for the text.
- Emphasize important points by using underlining, bold type, italics, or boxes.
- Avoid underlining, bold type, italics, or all capitals for large sections of text.
- Use wide margins.

Illustration Tips

- Use illustrations to help explain your text.
- Use simple line drawings.
- Illustrate the correct way to do things, not the wrong way.
- Avoid cartoon figures.
- Show as much of the human body as you can.
- Avoid abstract graphs or charts.

Resources

Developing Easy-to-Read Materials

Doak, Cecilia C.; Doak, Leonard G.; and Root, Jane H. *Teaching Patients with Low Literacy Skills.* Philadelphia: J. B. Lippincott Company, 1985.

Matiella, Ana Consuelo. *Getting the Word Out: A Practical Guide to AIDS Materials Development.* Santa Cruz, CA: Network Publications, 1990.

PLAN (Push Literacy Action Now), Inc. *Just Say It! How to Write for Readers Who Don't Read Well.* Washington, DC: PLAN, Inc., 1992.

Soifer, Rena; Irwin, Martha E.; Crumrine, Barbara M.; Honzaki, Emo; Simmons, Blair K.; and Young, Deborah L. *The Complete Theory-to-Practice Handbook of Adult Literacy: Curriculum Design and Teaching Approaches.* New York: Teachers College Press, 1990.

CHAPTER 5

Evaluating Materials for Readability

"I'm really glad you guys are finally asking us what we think."

—Ricky, Film lab technician

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In This Chapter, We Will Discuss:

- How to use a checklist to evaluate your materials.
- How to assess the grade level of your text using readability formulas.
- How to conduct a focus group to field test your materials.
- What lessons trainers have learned about writing and designing useful materials.

Evaluating Materials for Readability

Our goal in developing easy-to-read materials is to present information that can be clearly understood by the intended audience. The following pages discuss various methods to evaluate your materials for readability.

Checklist

This checklist can help you evaluate the writing, design and illustration of your health and safety materials. We have also included a scoring system. This can help you identify possible problem areas.

Begin by choosing one page of a curriculum, factsheet, or other written material that you want to evaluate. Choose a page with an illustration.

As you answer the following questions, fill in each blank with one of these numbers: yes = 2, somewhat = 1, no = 0.

Verbs

Scoring system: yes = 2, somewhat = 1, no = 0.

1. Do most of your sentences have **active** verbs? ____

active:	She did it.
passive:	It was done by her.

2. Do your sentences have many verbs that are **commands** or in the **present tense**? ____

command:	Write your sentences in the present tense.
no command:	You should write your sentences in the present tense.

continued

Sentences

Scoring system: yes = 2, somewhat = 1, no = 0.

3. Are most of your sentences stated **positively**? ___

positively:	Do it this way.
negatively:	It is not a good idea to do it that way.

4. Are most of your sentences simple, with **no subordinate clauses**? ___

Example of a subordinate clause:

> Carbamate pesticides, which are used on grapes, have been banned in many cases.

Example of no subordinate clause:

> Carbamates are pesticides used to spray grapes. Some are now banned.

5. Are most of your sentences **short** — fewer than 20 words long? ___

Meaning

Scoring system: yes = 2, somewhat = 1, no = 0.

6. Can you identify the **priority message**? ___

7. Do you explain any **technical words** you use? ___

8. Do you use **simpler words** where possible? ___

Design

Scoring system: yes = 2, somewhat = 1, no = 0.

9. Do you use a large, **serif typeface** for the main text? ___

10. Do your sentences avoid **large sections** of capital letters, bold type, or italics? ___

11. Are the **margins** wide enough to allow plenty of white space? ___

continued

Illustration

Scoring system: yes = 2, somewhat = 1, no = 0.

12. Does the illustration **help explain** the information in the text? ____

13. Is the illustration a simple **line drawing**? ____

14. Is the illustration **clear and realistic** — no cartoon figures or complex graphs? If illustrating the human body, have you included as much of the body as possible? ____

Now review your score for each question. The number "2" represents the best score in all categories. Go back to questions scored with 1 or 0. Make changes to help raise your score and improve your materials.

Readability Formulas

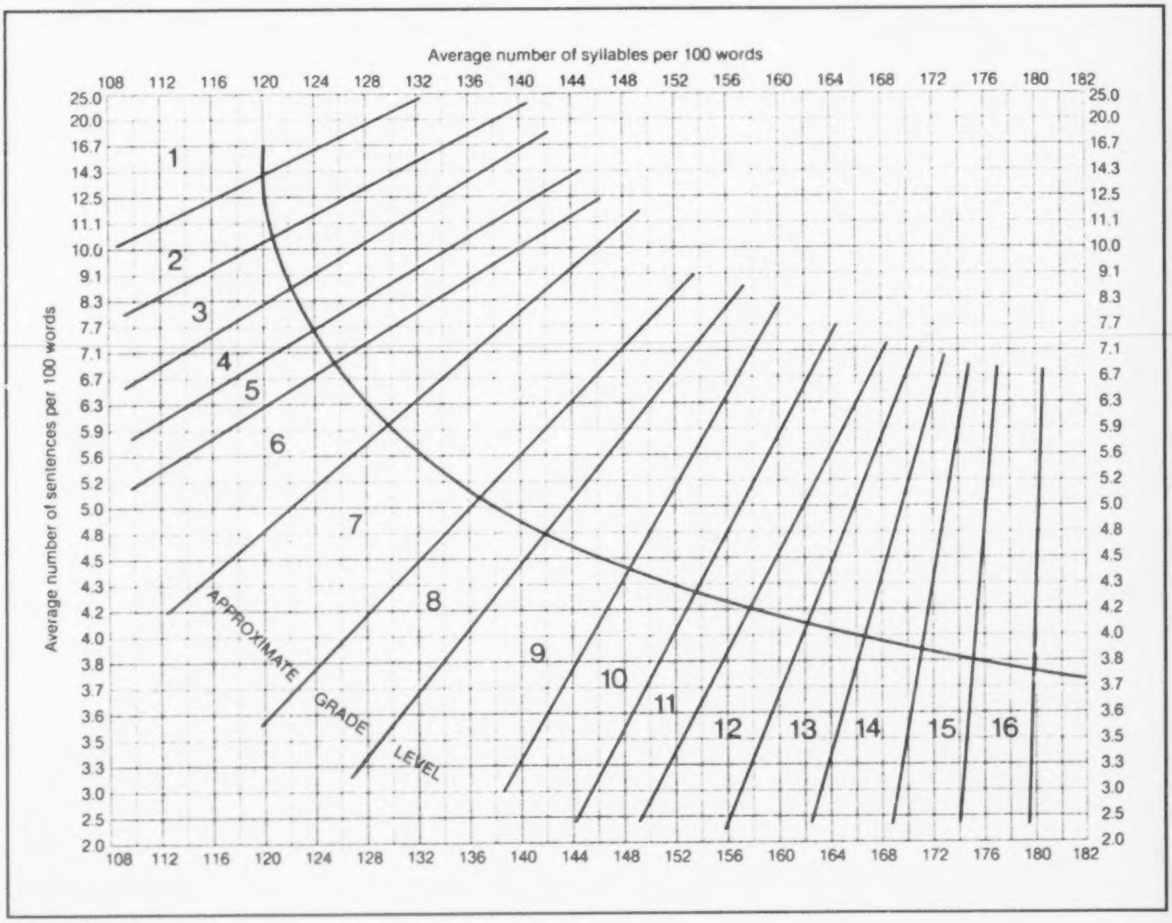
A second way to evaluate your educational material is to use a readability formula.

Readability formulas measure various aspects of your text. They measure the number of long words or count the number of words per sentence. They can also measure the number of words that appear on some "familiar words" lists. They then assign a numerical score indicating a "reading level" for your text. (It's often a school grade level.)

Such formulas, however, give only a rough idea of whether the text is easy or difficult. They can be used as a guide but not as an absolute indicator of readability. They should never take the place of showing materials to your audience for evaluation.

Several different readability formulas have been developed. You can calculate some of them manually (by hand) and some by computer. The following example is a formula that can be calculated manually. It is called the Fry Readability Graph.

The Fry Readability Graph



How to do it:

1. Choose **three passages of 100 words each** from the beginning, middle and end of the material. Skip all proper nouns (names of persons, places, or things).
2. Count the **total number of sentences** in the three passages.
3. Find the **average number of sentences** per passage (the total number of sentences divided by three).
4. Count the **total number of syllables** in all three 100-word passages.
5. Find the **average number of syllables** per passage (total number of syllables divided by three).
6. **Plot your averages** from steps 3 and 5 to find the approximate grade level of your text. Do this on the Fry Readability Graph on page 80.

☞ Additional resources on **Readability Formulas** are listed at the end of this chapter.

Advantages of Formulas

Readability formulas can be useful:

- To gain a general sense of how easy or how hard it is to read text.
- To compare two drafts of the same manuscript.
- To provide rough data on the reading level of your educational materials.

Disadvantages of Formulas

Among their drawbacks, readability formulas do not take into account:

- context
- concreteness or abstractness of language
- specialized vocabulary
- clarity of style
- design
- the reader's experiences.

Not all readability formulas calculate grade level in the same way. Different formulas, therefore, may give you different scores for the same text.

Another problem is that readability formulas require a certain amount of text — usually 100 words or more — in order to get a score. Some text may be too short to apply a formula.

Field Testing

"Put me in a situation where I'm comfortable, and I'll tell you what I think. I can give you advice about how to make this stuff simpler."

—Hank, Pipefitter

The best way to find out whether your materials are clear and easy to read is to field test them.

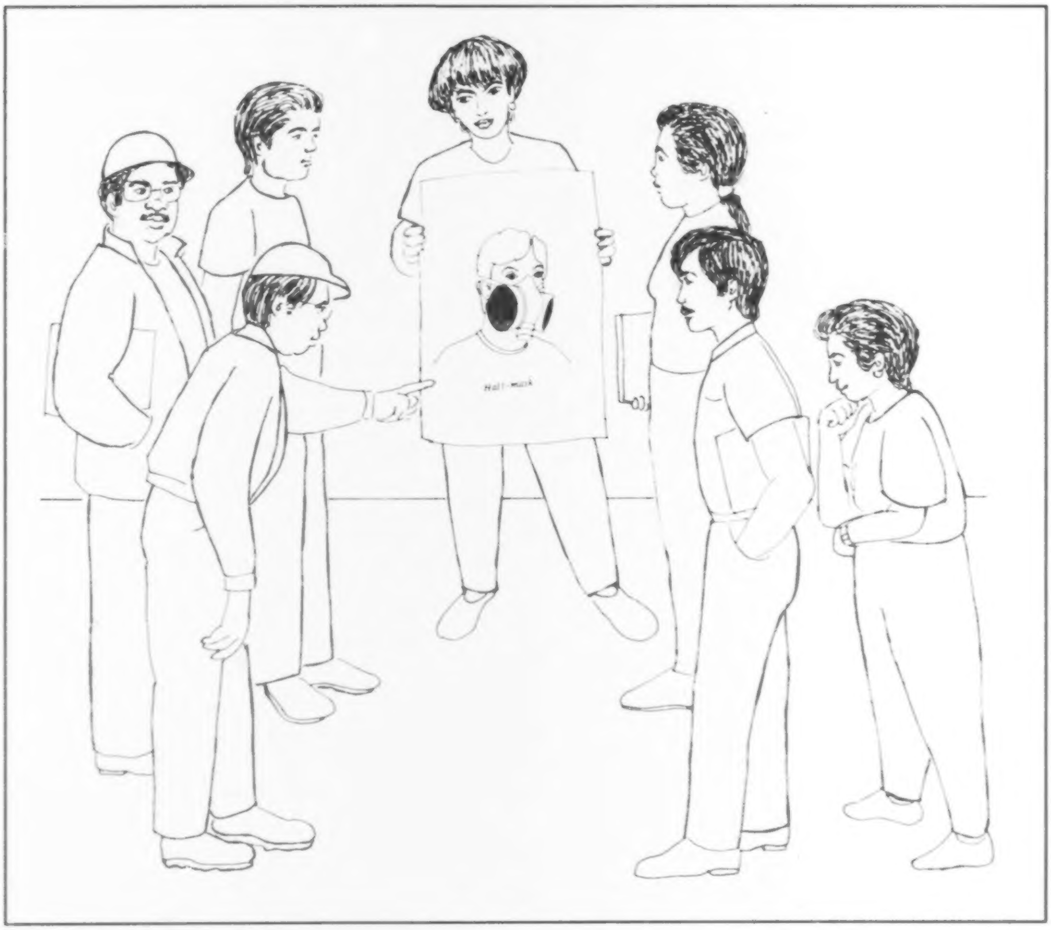
Field testing is usually done through a "focus group." To begin, you need a facilitator and a group of perhaps six to ten people representing your target audience. The facilitator asks them to look at and respond to a sample of text. People can also give feedback on the overall design and any accompanying illustrations.

Ask the group specific but open-ended questions. That way you can learn their reactions without "leading" them to respond in any particular way. Encourage everyone to speak so that both minority and majority views come out. A well-conducted focus group fosters respect and trust. Participants should feel comfortable offering comments on even the most sensitive or controversial topics.

continued

Field testing can help you:

- Identify your priority message.
- Develop ideas on how to present material.
- Receive feedback on a draft version of your work.
- Clarify words and concepts.
- Learn whether anything in your text is confusing or unclear.



Tips for Field Testing

1. **Field test your ideas or drafts early in the development process.**

   Take your idea or concept to your target audience during the development stage. That can help you establish your priority message. Also try to field test your written draft early on. Get feedback before you have finalized the content, design, or illustrations.

2. **Solicit focus group participants from your target audience.**

   Unions, employers, churches, community groups and health clinics may be willing to help you recruit focus group members. It's important that the group be representative of the population you are trying to reach.

3. **Create groups that can talk openly.**

   Avoid putting supervisors and managers in the same group with workers. Recognize that workers may not be comfortable talking in front of management about some topics.

continued

4. **Set clear and realistic goals about what you want to learn.**

   Think about your objectives and the areas where you want input. Don't ask for feedback you can't use. For instance, if you have a limited budget, don't focus on design and illustrations. Instead, you may want to ask more about the content of the text.

5. **Develop and ask specific questions.**

   Think about what you are trying to learn, and prepare your questions carefully. Begin with general questions. Then, move toward the specific. (See sample focus group questions on page 89.)

6. **Be patient and flexible.**

   Remember that it may take a while for the focus group to feel comfortable. Give people time to open up. Be willing to revise your agenda if the group's discussion goes in an unexpected direction. Still, don't let the group wander too far from what you need to know.

7. **Ask participants to compare different sizes of print and different illustrations.**

   Bring samples of your design and illustrations. Ask the group for their opinions. Get comments on the size of the print, the clarity of the illustrations and the layout of the material.

8. **Schedule the session at a convenient time and place.**

   Ask participants to suggest times and locations that will make it easier for them to attend. Try to avoid peak traffic periods and parking problems.

9. **Provide a comfortable atmosphere.**

   Participants may feel nervous about coming to this kind of session. Hold your session in a familiar place, if you can. Provide people with comfortable chairs and refreshments. This can help them feel welcome and more willing to share their thoughts. Encourage the group to relax and have fun. Be relaxed yourself.

continued

10. **Pay focus group members for their time, if your budget allows.**

    Participants often give up personal time to come to a focus group. Show them you value their input by paying them for contributing their time and effort. Also be sure to thank them.

11. **Let participants know how you will follow up.**

    Tell the group how you plan to use the results of the session. Explain your time frame for finalizing ideas or materials. If possible, send them samples of the finished product.

Sample Questions for Focus Groups

The following are some general questions you might ask a focus group. This can help you determine how well a publication draft communicates its message. Use the checklists and examples discussed in other parts of this chapter to help you develop other specific questions. These could include asking participants about vocabulary, illustrations, or appearance.

Clarity

- What do you think is the main idea in this material?
- Is any part of the message confusing to you? Which part?
- Are there any words that might be hard for you or your co-workers to understand? Which ones?

Relevance

- What is important for you to know about this topic?
- Could any information be left out? If so, which part?

Likes and Dislikes

- What do you like most about this publication?
- Is there anything in the publication that you dislike or that bothers you? If so, what?

continued

Credibility

- Do you think the message is believable?
- Is anything in the message difficult to believe? If so, what? Why?

Case Study #1
Field Testing

The LOHP Experience

In 1988, the Labor Occupational Health Program (LOHP) received funding to develop an easy-to-read, bilingual booklet. It was developed for workers who handle hazardous chemicals.

LOHP designed the booklet using computer graphics and photographs to help explain the text. The booklet was distributed through unions, English as a Second Language (ESL) programs, worker training centers and literacy groups nationwide.

We had field tested the text of the booklet, but not the graphics or photos. After the first edition was issued, we decided to do new field testing. We conducted two focus groups: one with unionized workers and another with students in an ESL program. We wanted to answer two questions:

- Did the computer graphics help readers understand the text?
- Were the photos relevant and useful?

continued

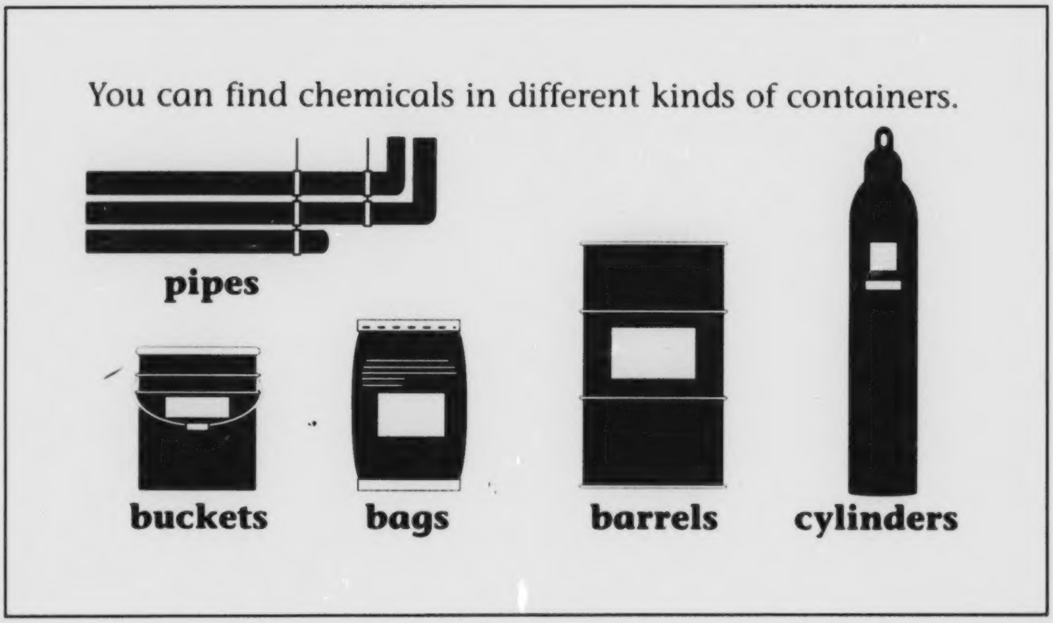
Focus Group Comments on Graphics

The focus group participants gave us some crucial feedback:

The computer graphics did not work as a way of illustrating key concepts. When LOHP staff field tested the graphics, workers said they found them to be "cold" and unclear.

For example, workers pointed out that the illustrations of work equipment on one page were not shown in a workplace setting. Some of them thought the computer graphic used to illustrate a hazardous waste container was a "keg of beer." These comments made it clear that some of the illustrations did not help explain the text.

Original booklet graphic (actual size)



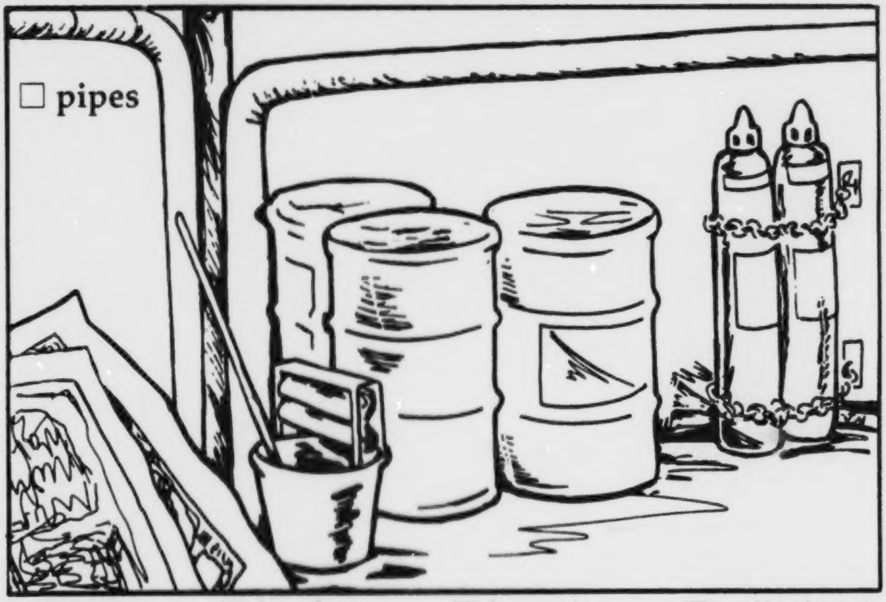
You can find chemicals in different kinds of containers.

We decided to replace the computer graphics with simple line drawings.

The redrawn illustrations still featured the same work equipment. However, the equipment was drawn as you might find it in the workplace.

New line drawing (actual size)

Do you work with chemicals found in:



☐ **bags** ☐ **buckets** ☐ **barrels** ☐ **cylinders?**

Chemicals can even be in the water, or in the ground.

continued

Focus Group Comments on Photos

Workers had several criticisms of the photos. They felt the photos were too small and dark. Some added that they were not large enough to draw readers in and get them involved. Finally, the photos did not always help them understand the written words.

Focus group participants also pointed out that the photos were not always relevant to their jobs. Among other things, they did not reflect the experiences of female workers. The only photo of a woman in the booklet showed an agency official.

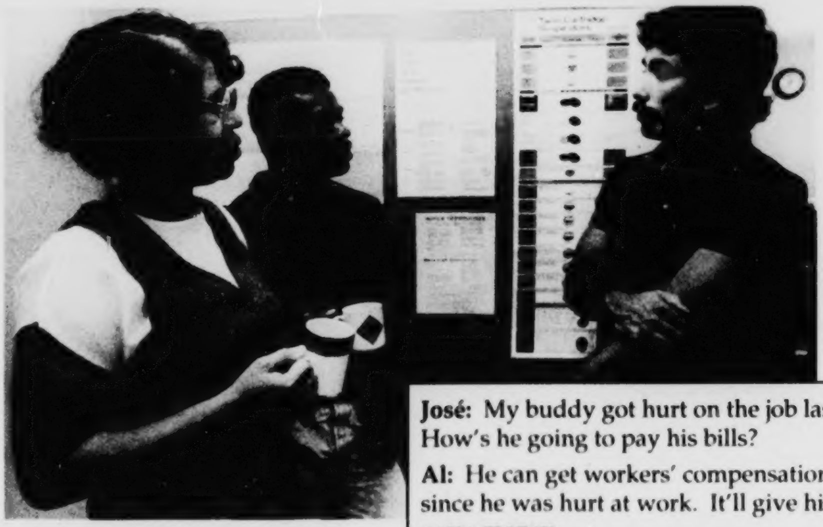
Original photograph (actual size)

1. "What if we get hurt, or we end up getting sick later on?"

2. "You have a right to be paid 'workers' compensation' for injuries and illness."

New photographs were taken. These photos were larger and included female workers. The photos were combined with the text to help explain the key points.

New photo (actual size)



José: My buddy got hurt on the job last week. How's he going to pay his bills?

Al: He can get workers' compensation, since he was hurt at work. It'll give him some money.

Martha: And pay his doctor's bills, too.

continued

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What Did LOHP Learn?

"While we held focus groups to help us develop the text, we simply assumed that people would understand the computer graphics. We learned a valuable lesson about getting feedback from our audience. Talking with workers gave us a lot of ideas about how to change the visuals in the booklet."

—LOHP Trainer

- Members of your target audience can be an excellent source of sound expert advice.
- Field test your illustrations and photos with your audience. Unless you field test, you cannot assume that the illustrations and photos in a publication will be clear and appropriate.
- It is premature to print and distribute your materials before members of the target audience respond to them.

Case Study #2
Field Testing

The HESIS Experience

The state of California's Hazard Evaluation System and Information Service (HESIS) issues Hazard Alerts. These technical factsheets are used by many health and safety trainers across the country.

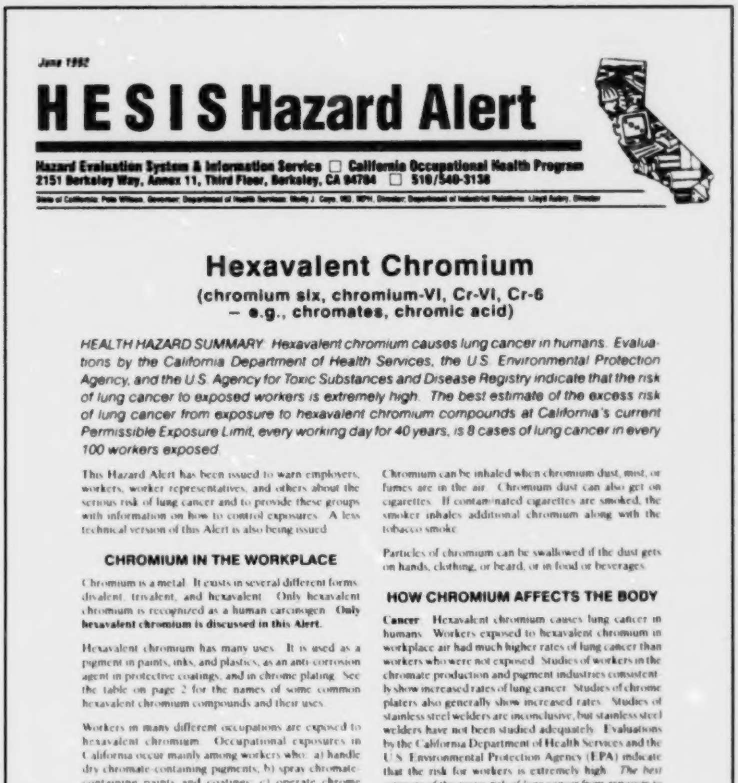
In 1992, HESIS developed a Hazard Alert on Chromium VI (referred to here as Chromium 6) and the increased risk of lung cancer. Chromium 6 is used by a variety of workers, including welders, spray painters, chrome platers and leather tanners.

continued

The original Hazard Alert:

- Was written at a college reading level.
- Did not include any illustrations.
- Relied on technical language to explain concepts.

Cover page of original version (reduced 50%)



June 1992

HESIS Hazard Alert

Hazard Evaluation System & Information Service ☐ California Occupational Health Program
2151 Berkeley Way, Annex 11, Third Floor, Berkeley, CA 94704 ☐ 510/540-3138

State of California: Pete Wilson, Governor; Department of Health Services: Molly J. Coye, MD, MPH, Director; Department of Industrial Relations: Lloyd Aubry, Director

Hexavalent Chromium

(chromium six, chromium-VI, Cr-VI, Cr-6
– e.g., chromates, chromic acid)

HEALTH HAZARD SUMMARY. Hexavalent chromium causes lung cancer in humans. Evaluations by the California Department of Health Services, the U.S. Environmental Protection Agency, and the U.S. Agency for Toxic Substances and Disease Registry indicate that the risk of lung cancer to exposed workers is extremely high. The best estimate of the excess risk of lung cancer from exposure to hexavalent chromium compounds at California's current Permissible Exposure Limit, every working day for 40 years, is 8 cases of lung cancer in every 100 workers exposed.

This Hazard Alert has been issued to warn employers, workers, worker representatives, and others about the serious risk of lung cancer and to provide these groups with information on how to control exposures. A less technical version of this Alert is also being issued.

CHROMIUM IN THE WORKPLACE

Chromium is a metal. It exists in several different forms: divalent, trivalent, and hexavalent. Only hexavalent chromium is recognized as a human carcinogen. **Only hexavalent chromium is discussed in this Alert.**

Hexavalent chromium has many uses. It is used as a pigment in paints, inks, and plastics, as an anti-corrosion agent in protective coatings, and in chrome plating. See the table on page 2 for the names of some common hexavalent chromium compounds and their uses.

Workers in many different occupations are exposed to hexavalent chromium. Occupational exposures in California occur mainly among workers who: a) handle dry chromate-containing pigments; b) spray chromate-containing paints and coatings; c) operate chrome plating baths; and d) weld or cut chromium-containing metals such as stainless steel.

HOW CHROMIUM ENTERS THE BODY

Hexavalent chromium enters the body in two ways: by being inhaled or by being swallowed.

Chromium can be inhaled when chromium dust, mist, or fumes are in the air. Chromium dust can also get on cigarettes. If contaminated cigarettes are smoked, the smoker inhales additional chromium along with the tobacco smoke.

Particles of chromium can be swallowed if the dust gets on hands, clothing, or beard, or in food or beverages.

HOW CHROMIUM AFFECTS THE BODY

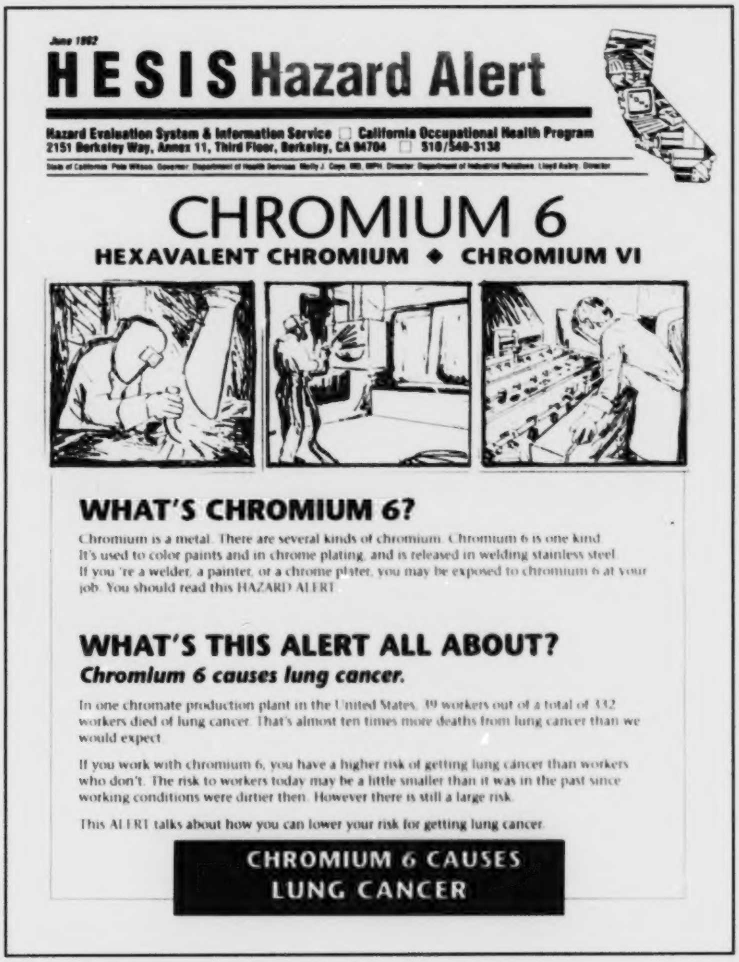
Cancer. Hexavalent chromium causes lung cancer in humans. Workers exposed to hexavalent chromium in workplace air had much higher rates of lung cancer than workers who were not exposed. Studies of workers in the chromate production and pigment industries consistently show increased rates of lung cancer. Studies of chrome platers also generally show increased rates. Studies of stainless steel welders are inconclusive, but stainless steel welders have not been studied adequately. Evaluations by the California Department of Health Services and the U.S. Environmental Protection Agency (EPA) indicate that the risk for workers is extremely high. *The best estimate of the excess risk of lung cancer from exposure to hexavalent chromium compounds at California's current Permissible Exposure Limit (PEL), every working day for 40 years, is 8 cases of cancer in every 100 workers exposed.* An individual worker's actual risk depends on how much hexavalent chromium is in the workplace air and how long the exposure goes on. The lower and briefer the exposure, the less the risk of lung cancer. That's why it

Developing a "Popular" Version

A trainer working with HESIS decided to develop a popular version of the Hazard Alert for Chromium 6. The new version would be more accessible to workers. It would also:

- Be written at a less advanced reading level.
- Use pictures to help tell the story.
- Convey the information in less technical language.

Cover page of popular version (reduced 50%)



June 1992

HESIS Hazard Alert

Hazard Evaluation System & Information Service ☐ California Occupational Health Program
2151 Berkeley Way, Annex 11, Third Floor, Berkeley, CA 94704 ☐ 510/540-3138

State of California Pete Wilson, Governor; Department of Health Services Molly J. Coye, MD, MPH, Director; Department of Industrial Relations Lloyd Aubry, Director

CHROMIUM 6

HEXAVALENT CHROMIUM ◆ CHROMIUM VI

WHAT'S CHROMIUM 6?

Chromium is a metal. There are several kinds of chromium. Chromium 6 is one kind. It's used to color paints and in chrome plating, and is released in welding stainless steel. If you 're a welder, a painter, or a chrome plater, you may be exposed to chromium 6 at your job. You should read this HAZARD ALERT.

WHAT'S THIS ALERT ALL ABOUT?

Chromium 6 causes lung cancer.

In one chromate production plant in the United States, 49 workers out of a total of 332 workers died of lung cancer. That's almost ten times more deaths from lung cancer than we would expect.

If you work with chromium 6, you have a higher risk of getting lung cancer than workers who don't. The risk to workers today may be a little smaller than it was in the past since working conditions were dirtier then. However there is still a large risk.

This ALERT talks about how you can lower your risk for getting lung cancer.

CHROMIUM 6 CAUSES
LUNG CANCER

continued

Field Testing

As part of the development process, HESIS decided to conduct a focus group. Eight participants were recruited through several unions. They were paid to attend a half-day session on their day off. HESIS staff had a first draft of the proposed factsheet. During the session, they presented large blow-ups of each page. Participants were asked:

- Is the priority message clear?
- Is the vocabulary familiar?
- Can you understand the information as it is currently presented?
- Is the material useful?
- Is there additional information you would like to see included in the factsheet?
- What effect will this information have on how you do your job?
- Can the graphics and design be improved?

Focus Group Comments

Participants made it clear that the information presented in the draft factsheet was not what the workers needed most.

- Workers wanted **more** practical information about "survival" on the job. They wanted **less** emphasis on the "high risk" of exposure to Chromium 6.

- Workers also raised concerns about the limited availability of personal protective equipment at their worksite. Because of this, they wanted **useful information** on how to minimize their exposure to Chromium 6.

- Workers also wanted easy-to-understand information about the **best** controls and methods to limit their exposure. They wanted this information even if they couldn't always get these controls. They felt this information could help them talk to their employers about ways to reduce risk on the job.

continued

What Did HESIS Learn?

"The focus group feedback changed the entire factsheet. We got a clear message about what workers wanted to know and how to present technical information. We rewrote it to put more emphasis on controls and how to limit workers' exposure, and less on the high-risk message."
—HESIS trainer

The HESIS experience, too, carries valuable lessons for health and safety trainers:

- Field testing can provide a "reality check" about how your material is organized and presented.
- Field testing can help you redefine the priority message.
- Field testing can suggest how to present technical information in a practical way.

☞ Additional resources on **Field Testing** are listed at the end of this chapter.

To Sum Up:

Readability Formulas

- Use a checklist to help evaluate the readability of your materials.
- Use a readability formula, like the Fry test, to provide a "reading level" for your text.
- Don't rely on readability formulas to give you feedback on the readers' experiences.

Field Testing

- Field test ideas or drafts early in the process.
- Solicit focus group participants from your target audience.
- Create groups that can talk openly.
- Set clear and realistic goals.
- Develop and ask specific questions.
- Be patient and flexible.
- Ask participants to compare different sizes of print as well as different illustrations.
- Schedule the session at a convenient time and place.
- Provide a comfortable atmosphere.
- Pay participants for their time whenever possible.
- Let participants know how you will follow up.
- Use field testing results to change your publication design, content and priority message.

Resources

Readability Formulas and Field Testing

Fry, Edward. "Readability Formula That Saves Time." *Journal of Reading.* April 1986.

Hazard Evaluation System and Information Service (HESIS). *HESIS Hazard Alert: Chromium 6.* Berkeley, CA: Department of Health Services and Department of Industrial Relations, 1992.

Krueger, Richard A. *Focus Groups: A Practical Guide for Applied Research.* Newbury Park, CA: SAGE Publications Inc., 1988.

National Cancer Institute. *Making Health Communication Program Work: A Planner's Guide.* NIH Publication #89-1493. Bethesda, MD: National Institutes of Health, April 1989.

University of California, Berkeley, Labor Occupational Health Program. *Is Work Making You Sick?/¿Le Enferma Su Trabajo?* Berkeley, CA: Regents of the University of California, 1989 and 1991.

CHAPTER 6

Training Methods with Literacy in Mind

"Make it fun and keep it moving. Even people who don't have reading and writing problems seem to enjoy that."
—*Isabel, Hotel maid*

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In This Chapter, We Will:

- Discuss how to adapt your training methods to reach participants with a range of literacy skills.
- Define the term "participatory" training.
- Present sample activities for nine different participatory training methods.
- Discuss the advantages and disadvantages of each method.
- Offer tips for using each method with literacy in mind.

Tips for Training

"If the trainer says, 'You're not going to have to read aloud in this training,' I can relax."

—*Joe, Supervisor*

The following suggestions are designed to help you adapt your training techniques to reach participants at all reading levels. We have compiled the list with help from health and safety trainers as well as workers who have reading and writing problems.

- At the beginning of the session, introduce yourself. Mention that you are aware people in the group may have different levels of reading and writing skills.
- Make it clear that you won't put people on the spot. Let them know that you are available during breaks to talk about this or other concerns.
- Let the group know that they will not necessarily be expected to read material by themselves during the training.
- Let people know that you won't be asking them to read aloud.
- If materials must be read aloud, read them yourself or ask for a volunteer. Keep this in mind during the entire class, including tests and exercises.

- Read all instructions aloud. Don't rely on written instructions or checklists as the only way of explaining an activity or concept.

- Make sure your handouts are easy to read and visually appealing. Give out only the most important written material. Make any other materials available as an option.

- Explain any special terms, jargon, or abbreviations that come up during the training.

- If participants have to write, post a list of key words. This can serve as a resource for people with writing or spelling difficulties.

continued

- If someone has to write on a flipchart in front of the group, always ask for volunteers. Don't embarrass anyone by calling on him or her to write.
- Organize small groups of people to do exercises together. Set up your groups to include a volunteer reader in each one.
- Use visual aids, props and real-life examples in all your teaching strategies. Don't depend on people's literacy skills.
- Be sensitive about literacy issues. If you observe someone having trouble reading and writing, don't embarrass the person by mentioning it in front of the group. Instead, check in privately at your first opportunity.
- Frequently ask how the training is going so far. Seek advice on how you can make the course a success.

"We always say, The rules you had to go by in school can be broken here. We encourage sharing answers and working with others."

—*Joan, Trainer*

Defining Participatory Training

"Give me a chance to practice. That's the best way of learning for me. If I can see it and understand it, I'm sure I can do it."
—*Alberta, Nurse's aide*

Participatory training methods draw on participants' own experiences. They encourage teamwork and group problem solving. Participants get the opportunity to analyze health and safety workplace problems in a group and develop solutions. There can also be valuable exchanges between workers and trainers about their lives and their work.

Participatory methods work particularly well with people who have reading and writing difficulties. Participatory methods:

- Draw on participants' own knowledge and experience about health and safety issues.
- Emphasize "learning through doing" without relying on reading.
- Create a comfortable learning experience for everyone.

Samples of Participatory Methods

The following section offers a brief overview of nine participatory training methods.

- Ice-breakers
- Risk maps
- Role playing
- Games
- Small group exercises
- "Trigger" visuals
- Brainstorming
- Demonstrations and hands-on activities
- Participatory lectures.

For each method, we include:

- A sample training activity (identified by a vertical bar on the outer edge of the page).
- A checklist of advantages and disadvantages.
- Tips for using the method with literacy in mind.

The sample training activities focus on a particular health and safety topic. We encourage you to change the content to meet the specific training needs of your own audience. For example, consider adapting the sample trigger visual designed for cosmetologists on page 135 to one that will work with construction workers.

☞ Additional resources on **Training** and sources for the **Training Activities** described here are listed at the end of this chapter.

Sample Ice-breaker: "Pairing Off for Introductions"

Adapted from Werner and Bower, *Helping Health Workers Learn*, Hesperian Foundation.

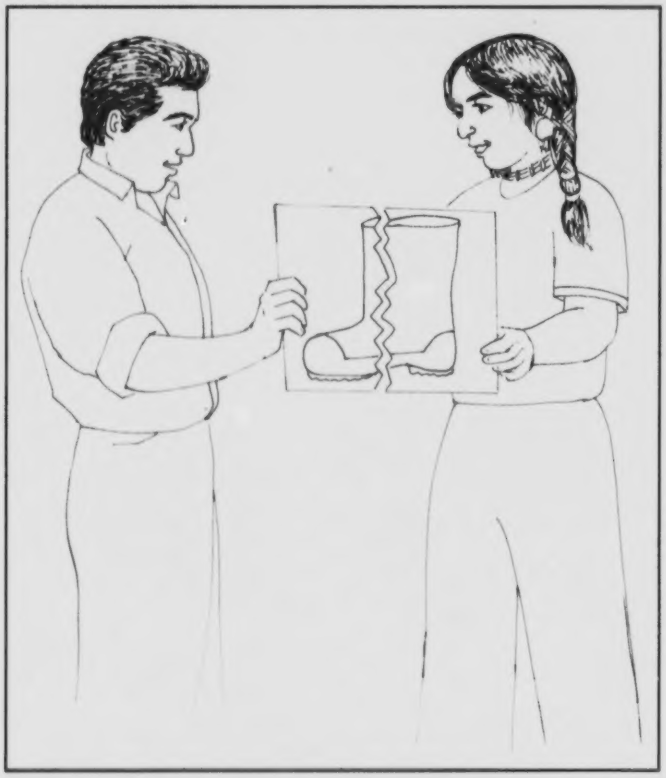
Time: 20-40 minutes.

Objective: To help members of a new group meet each other, relax and start talking about health and safety.

Use: Appropriate for any group of workers if everyone is from the same trade or occupation.

How it works:

- Draw or photocopy different kinds of protective clothing or equipment. There should be one picture on a separate sheet of paper for every two people.
- Illustrate items that are familiar to your audience. For a group of construction workers, you might choose hardhats, respirators and goggles. For a group of office workers, choose document holders, well-designed chairs and footrests.
- Tear each picture in half.
- Put the pieces into a hat and let each person pick one.
- Have everyone try to find the person with the "other half" of his or her picture.



- Allow people with matching halves to spend 10 or 15 minutes getting to know each other. They may answer a list of specific questions the trainer has prepared and read aloud. Questions might include:

  - — What is your name?
  - — What kind of work do you do?
  - — Do you use the protective clothing or equipment shown in the picture?
  - — What is your biggest health and safety concern at your job?

- Meet as a group again. Have everyone take turns introducing his or her partner to the group.

- Allow the dialogue to lead into a more detailed discussion about health and safety hazards on the job.

Using Ice-breakers

Ice-breakers help people get to know each other. It can also get the training off to a good start and set the stage for the program.

Advantages

- Ice-breakers are quick and easy.
- They can be designed so they don't require reading and writing.
- They allow everyone to participate.
- They are generally based on participants' own skills and knowledge.
- They can make participants feel comfortable.

Disadvantages

- Some people dislike "games."
- Not everyone is comfortable in small groups.
- Some people prefer more structure at the beginning of a training session.

Tips

- Try to choose an ice-breaker that requires little or no reading and writing.
- If your ice-breaker involves reading or writing, you may want to base the activity on teams rather than individuals or pairs. This will allow anyone with difficulties to team up with people who are more confident in their literacy skills.

Sample Risk Map: "Mapping Hazards in Your Workplace"

Adapted from Mújica, "Coloring the Hazards," *American Journal of Industrial Medicine.*

Time: 45-60 minutes.

Objective: To create a map of the workplace and its hazards to identify and solve health and safety problems.

Use: Most appropriate for participants working in a plant, factory, or office.

How it works:

- Form several small groups, each with people from the same workplace or similar ones.
- Ask people in each group to draw a map of their work area using colored markers.
- Encourage people to draw rather than use words. Have the groups use standard color codes for different types of hazards.
- Post a "key" that shows what each color represents. Explain to the group that the size of the dot represents the seriousness of the hazard. (The larger the dot, the more serious the hazard.)

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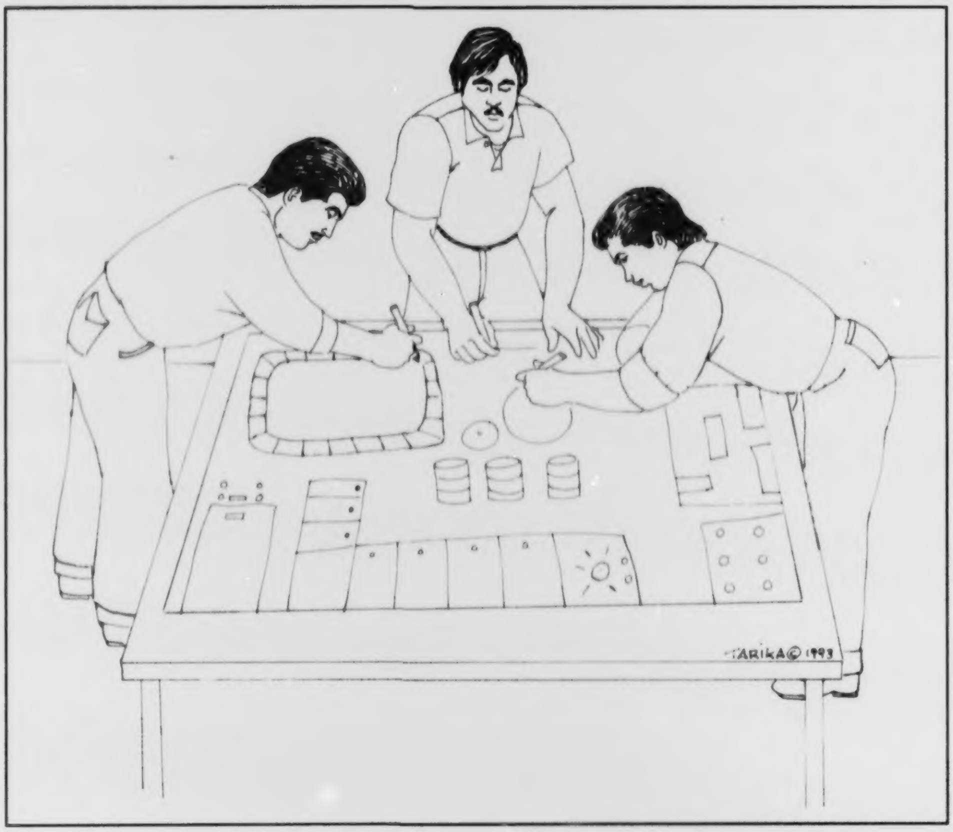

- The group should identify and mark the locations of all types of hazards, such as:
    - Chemical (Where are the vapors, gases, liquids, or other chemical hazards? Where is there poor ventilation?)
    - Physical (Where are there problems with noise, heat, cold, radiation, or lighting?)
    - Safety (Where are there hazards from machinery, tools, electricity, falls, or other accidents?)
    - Stress (Where are there problems due to shiftwork, pace of work, supervision, or inadequate training?)

- Have the groups identify and prioritize methods of correcting the hazards.

- Reconvene the whole class. Have each group present and discuss its map, answering these questions:

  - Are there any other work conditions, not shown on the map, which may be hazardous?
  - Which changes are most important?
  - What is the next step?
  - How will changes be made?

- Refer back to the maps throughout the rest of the session. Connect other health and safety topics to the hazards identified on the risk maps.

Using Risk Maps

Risk mapping allows workers to identify health and safety hazards at the workplace. Using different colored markers to draw out their specific worksite, workers identify risk factors as well as possible controls. It also lets them set health and safety goals and priorities.

Advantages

- Risk maps are visual — they don't require reading or writing.
- The map can be referred to throughout the training and updated in the future.
- Maps can help workers prioritize changes needed at the job site.
- Each worker is an "expert" because the exercise is based on his or her own experiences.

Disadvantages

- Risk maps can be difficult if workers come from many different worksites.
- They can be difficult for anyone who works at several sites or doesn't have a fixed workplace.

Tips

- Use color coding instead of writing. Have a visual "key" on a flipchart that explains how to color-code various types of hazards on the map.
- If you are aware of participants with reading or writing difficulties, encourage them to take a primary role in this activity. For example, this could include marking the map as the group identifies hazards.

Sample Role Play: "Finish Marta's Story"

Adapted from Labor Occupational Health Program, *24-Hour Health and Safety Training.*

Time: 60-90 minutes.

Objective: To dramatize people's own experiences exercising their health and safety rights at work.

Use: Most appropriate with a group that has established rapport with one another or at the end of a training session.

How it works:

- Read the following story aloud. Notice that it ends at a point where a decision must be made and the main character is unsure what to do.

The story: Marta has just started working for a small company that cleans industrial parts. She receives dirty parts from various industries and has to clean them using several kinds of solvents.

Her boss gave her a respirator to use but did not explain how to use it. After Marta's first day on the job, she goes home with a headache and dizziness. She suspects that something at work made her feel sick.

- Ask participants to discuss the story and, based on their experience, "finish" it. Have them dramatize the action they feel Marta should take.

continued

- They should consider Marta's rights as a worker and the various people she might turn to for help. These could include worksite health and safety committee members, co-workers, or an OSHA inspector.
- Possible roles: Marta, boss, co-workers, shop steward.
- After the role play, ask the entire group for comments and feedback.

Using Role Plays

Role playing dramatizes a situation or incident. Class members play the parts of people involved. A scenario is presented that encourages participants to: (1) act out different ways of handling a particular problem, (2) express different points of view on a controversial issue, or (3) educate the rest of the class about a given subject.

The trainer presents only the beginning of the scenario. Participants then determine the action that the main characters will decide to take.

Advantages

- Role playing encourages active involvement.
- It can bring an issue to life.
- It is especially valuable with participants who learn better from "doing" rather than from reading or listening.
- It does not require the use of written material.
- It encourages teamwork and cooperation.

Disadvantages

- Some people may not be comfortable "acting" in front of a group.
- People playing the roles may miss the main points a trainer hopes to convey.

continued

Tips

- Make role plays spontaneous, with no written script.
- Use situations that are familiar to participants, so they do not need to memorize their part.
- Encourage people to use their own work experiences to guide them in playing their particular role.

Sample Game: "Pesticide Lotería"

From Integrated Pest Management (IPM) Education and Publications, University of California, ANR Publications.

Time: 1 hour.

Objective: To communicate pesticide safety messages.

Use: Appropriate for Spanish-speaking workers. Could probably be adapted for groups who speak English.

Background: The original version of La Lotería has been played at town fairs in Latin America for more than a century. It is traditionally played by adults as well as children.

This version, the "Pesticide Lotería," resembles the original game both in format and style. The difference is that this is a teaching game, designed to help Spanish-speaking workers learn how to work safely with pesticides.

The game is played somewhat like Bingo. There is a "caller" who has a deck of 54 cards, each with a different picture. The cards are available in Spanish (see Resources on page 154).

Each picture illustrates a piece of pesticide safety information and is printed on the card with a corresponding slogan or saying. Each player receives a game card, called a "tabla," with 16 of the 54 figures. Unlike those in many card games, no two tablas are alike. In addition, the same figure is never repeated twice.

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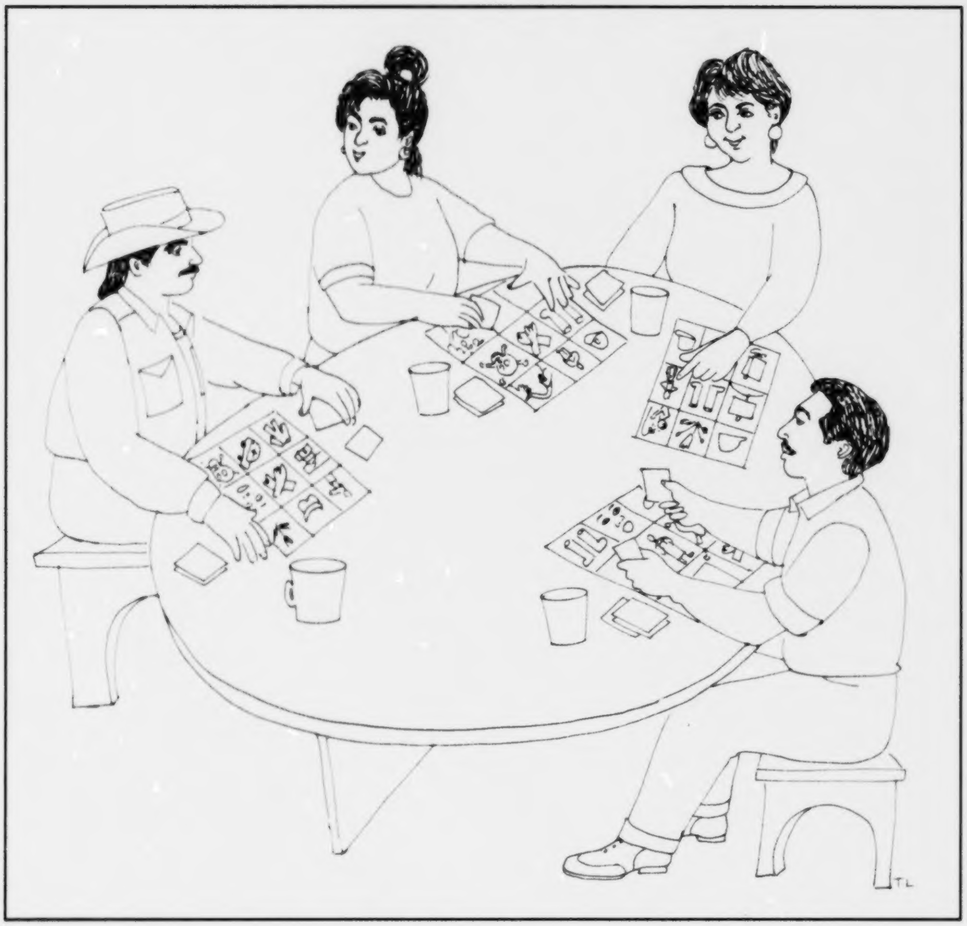


To play, you will need a caller who speaks and reads Spanish. Consider asking for a volunteer from among the participants. You will also need some markers for the players to put on their tablas as the figures are called out. Markers could be pebbles, dry beans, grains of corn, or coins.

Play the game as part of a pesticide safety training session to reinforce the information you are presenting. Or, use the game cards by themselves as a starting point for discussions. Children can also play the game to learn early about safe pesticide-handling practices.

How it works:

- Draw a card from the deck, call out the saying, show the card and name the picture. Players who have this picture on their tabla then put a marker on it. As with Bingo, the winner is the first to complete a horizontal, vertical, or diagonal line across their card.

- If you want to prolong the game, ask players to fill the whole card in order to win. You can play until you have a single winner, or you can keep going. If you want, after someone has won, you can ask players to keep their markers in place. You can then continue to call off the remaining cards.

- Make the game more challenging by calling out only the saying and not showing the picture. In this case, in order to win, players will need some knowledge about pesticide safety. This will allow them to choose the picture on their card that matches each saying.

- Provide prizes for the winners to make the game more enjoyable and the players more enthusiastic. Many Spanish-speaking players are so familiar with the original game that it needs very little explanation.

Using Games

Games can be a fun, creative and interactive way to communicate ideas and concepts. They are especially useful when used to cover "dry," potentially boring topics such as laws and regulations. Familiar games like Bingo and Wheel of Fortune can work well.

Advantages

- Games can help trainers present "dry" information creatively.
- They let participants have fun while learning.
- They can motivate workers to find a correct answer, especially if there are prizes.
- They encourage lively interaction and teamwork.
- They can help people to remember information.

Disadvantages

- Games based on popular TV game shows or traditional American games may be unfamiliar to some participants.
- Some people may dislike competition.

Tips

- Design or choose games that can be played with pictures or with few written words.
- Design games with people's cultural background in mind.
- Avoid complicated instructions.
- Demonstrate or explain the basic concept of the game in a way everyone can understand.
- If the game involves reading questions, the trainer should read them aloud.

Sample Small Group Exercise: "Taking Action to Solve Workplace Problems"

From Labor Occupational Health Program, (LOHP).

Time: 60-90 minutes.

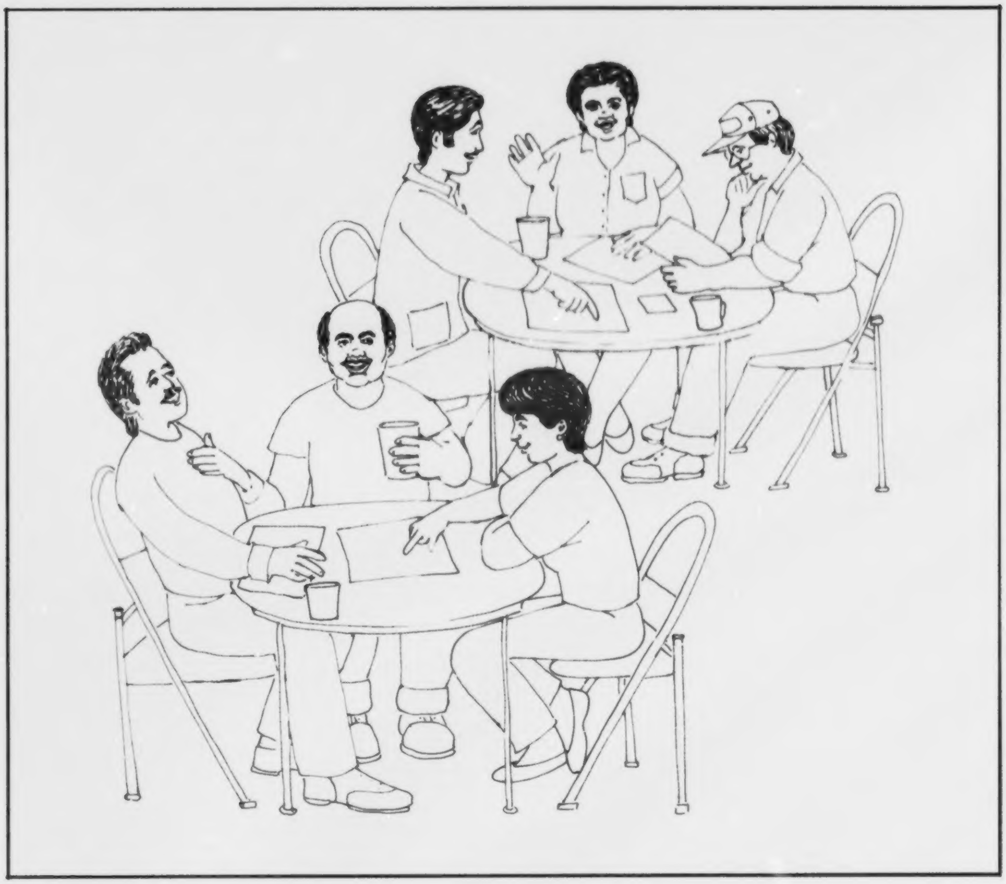
Objective: To encourage groups to analyze a workplace problem and create a plan for solving it.

Use: Should be appropriate for most groups of workers.

Background: Begin with a brief discussion of actions that workers can take to solve workplace health and safety problems. Through this discussion, you should generate a list of possible actions on a flipchart.

Examples:

- Talking with the boss.
- Talking with the shop steward or union representative.
- Organizing a health and safety committee.
- Collecting documentation, such as health surveys, medical records and information on chemicals.
- Calling OSHA.
- Refusing to do the work.



How it works:

After discussing possible actions:

- Break the class into small groups of three to five people.
- Ask members in each group to come up with a list of problems they have at their own workplace.

continued

- Ask a volunteer in each group to take notes on the discussion (if necessary) for a report back to the whole class.

- Each group selects one problem they would like to solve and chooses one of the action methods listed on the flipchart.

- Each group makes a plan for carrying out the action they have chosen.

- Each group then reports back to the entire class on:

  - Which workplace problem they chose to solve.
  - Which method of action they chose.
  - What plan they developed for taking this action.
  - What possible barriers there are to solving the problem with the chosen method.

Using Small Group Exercises

Small group exercises offer a participatory, nonlecture approach. Participants work together on various activities to solve real-life problems. Groups can work with a case example of their own or one prepared by the trainer in advance.

The trainer asks group members to work together to answer a series of questions or to figure out a course of action. One volunteer in each group takes notes or keeps track of the group's discussion. The group then reports results of the discussion back to the whole class.

Advantages

- Small group exercises allow for maximum participation and interaction.
- They draw heavily on workers' experience.
- They offer participants an opportunity to interact in a setting with a smaller number of people.

Disadvantages

- One group member may be domineering and make it difficult for others to participate.
- Small groups may not focus on the task at hand.
- Group members may have problems using written materials.

continued

Tips

- Read the instructions for the exercise aloud before breaking into small groups. If possible, demonstrate these instructions visually.
- If there are several tasks involved in the exercise, it might be helpful to give directions in phases.
- If the exercise involves reading, ask for a volunteer reader in each group.
- Small group reports to the whole class should be presented orally, not in writing.

Sample Trigger Visual: "Working Safely in a Hair and Nail Salon"

Adapted from California State Board of Barbering and Cosmetology, and LOHP, *Health and Safety for Hair Care and Beauty Professionals.*

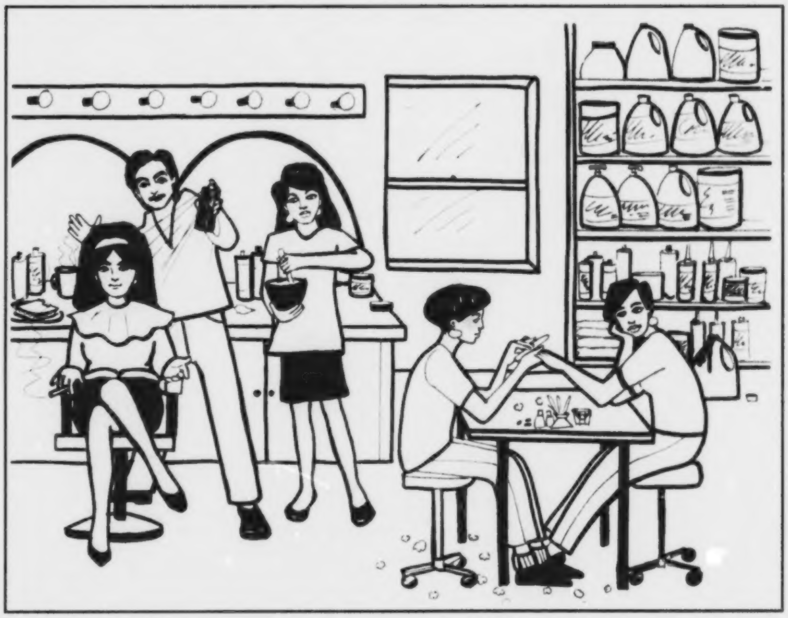
Time: 30-45 minutes.

Objective: To use a visual to start a discussion about how to prevent exposure to chemical hazards in a beauty salon.

Use: Can be adapted for most trades and occupations.

How it works:

- Prepare a drawing, slide, or overhead that shows a typical hair and nail salon. Make sure several hazardous situations involving health and safety problems are clearly visible.



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- Ask participants, "What health and safety hazards do you see in this picture?" As people respond, write down their answers on the picture itself or on a flipchart.

- Ask participants, "What could you do to solve these problems?"

- Possible solutions to the problems in the picture include:

  1. Isolate the work process.

  — Do not allow food or drink in the work area.
  — Provide a place to eat away from chemicals.

  2. Use ventilation.

  — Mix chemicals in a separate area that has good ventilation.
  — Open the window (weather permitting) to increase the amount of fresh air in the room.
  — Get a vented manicure table.

  3. Use personal protective equipment.

  — Manicurist should wear gloves and a dust mask when filing or grinding nails.
  — Always wear gloves and goggles while mixing chemicals.

  4. Prevent other hazards.

  — Dispose of used materials properly.
  — Keep all containers closed when not in use to prevent vapors from escaping.
  — Enforce a no-smoking policy in the salon.

- Finally, discuss obstacles to these solutions.

Using Trigger Visuals

"Trigger" activities use a visual to begin a discussion. Examples of visuals include short videos, slides, photos, drawings and posters.

Advantages

- Trigger visuals can help participants understand a scenario more clearly.
- They can stimulate discussion.
- They can help present different perspectives on a particular issue.
- They can illustrate actual examples from the workplace.

Disadvantages

- Some trigger visuals rely on dependable audiovisual equipment.
- They can be difficult to obtain. Slides or video footage on a specific training topic may not be available.
- They can be a "passive" activity, unless accompanied by key questions for discussion.
- They can be confusing if they don't clearly illustrate your point.

continued

Tips

- Write discussion questions on a flipchart. Read them aloud before showing the class your visual material.
- Keep these questions simple.
- Summarize the discussion orally as well.
- When using an illustration or poster, make sure that it is drawn clearly.

Sample Brainstorm: "What Do You Think?"

Adapted from LOHP and a variety of other training sources.

Time: 20-40 minutes.

Objective: To draw out participants' own experiences and thoughts on an issue.

Use: Should be adaptable to almost any training situation.

How it works: Ask an open-ended question that has many possible answers. Let people respond. Repeat all answers orally; then write them down. Depending on your topic, you might ask one of these questions:

- What makes something hazardous?
- What are some reasons you shouldn't smoke at work?
- What have you heard about how the HIV virus is transmitted?
- What makes health and safety factsheets hard to understand?
- What is it about personal protective equipment that makes workers not want to use it?
- What are some of the barriers to creating an effective joint labor-management health and safety committee?

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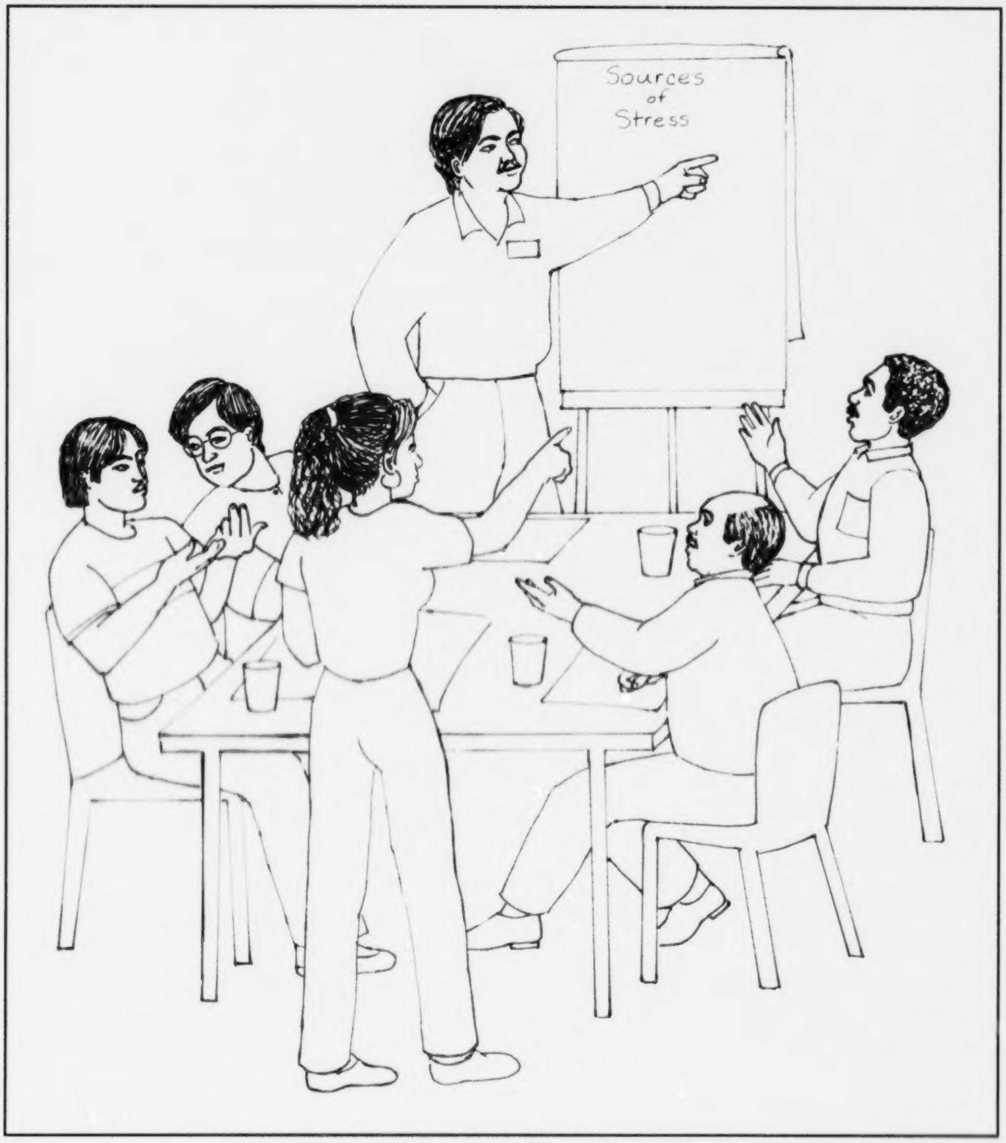


- What are the ways we can improve safety at this particular worksite?

- What suggestions do you have for making this workstation more comfortable?

- What are the sources of stress on your job?

Using Brainstorming

Brainstorming can generate a range of responses to a broad, general question. Participants are encouraged to offer the first response that pops into their mind about a particular issue. The trainer and the participants should not comment on or respond to anyone's ideas until the end of the exercise.

Advantages

- Brainstorming encourages the use of imagination.
- It draws on participants' own experience and expertise.
- It is a good warm-up for more complex or challenging activities such as role playing.
- It can generate new ways of looking at an issue.
- The number of possible answers is unlimited.

Disadvantages

- Brainstorming can be hard to facilitate in a large group.
- Participants may begin criticizing one another's ideas without strong facilitation.
- Participants may have little to say on the subject or may not feel comfortable sharing their ideas.

continued

Tips

- Choose a thought-provoking question that all members of the class can respond to.
- Repeat each answer orally before writing it down.
- As much as possible, write down participants' responses in their own words.
- Allow time for everyone to contribute.
- Review the list of responses at the end.

Sample Demonstration and Hands-on Activity: "Back Injuries—Causes and Solutions"

Adapted from the International Ladies Garment Workers' Union (ILGWU), Health and Safety Department.

Time: 60-90 minutes.

Objectives:

- To communicate a visual image of the factors that may cause back injuries.
- To help participants think about job redesign as a way to prevent back injuries.

Use: Can be adapted for most trades and occupations.

Background: Place lightweight objects in various places around the training room — for example, on the floor, on high shelves and in containers. The aim is for participants to lift and carry the objects. You may want to include an unbalanced load or something slippery. The type of objects you use and where you place them should be based on the participants' actual work. (Obtain this information from a needs assessment before or at the beginning of the training.)

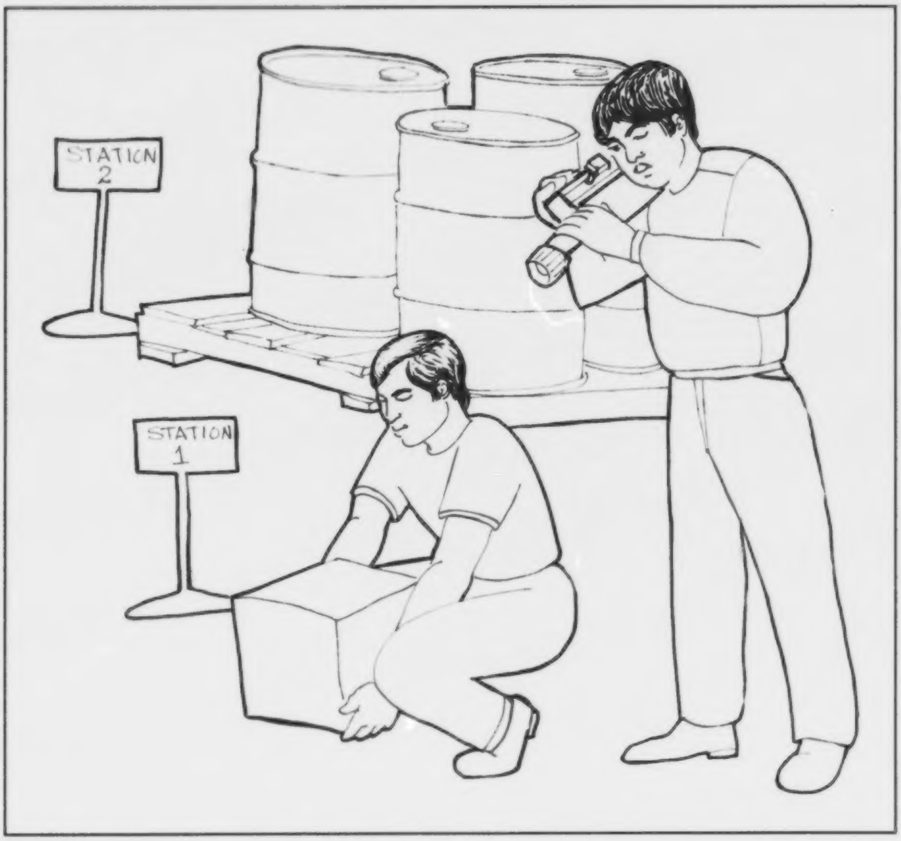
Encourage participants to be careful while doing this exercise. Ask for volunteers with no back problems. All props should be lightweight.

continued

How it works:

Part I: Demonstrating the Problem

- Begin by asking participants, "Why do people get back injuries on the job?"
- Ask for one volunteer. Explain that you're pretending to make a movie about what causes back injuries. (You might create a mock-up of a video camera out of cardboard.)
- The volunteer attempts to lift one of the props. The rest of the group has the "camera rolling" until it sees anything wrong, such as a possibility for injury. When anyone sees something, he or she — even the whole group — shouts, "Slow motion!" or "Cut!"



- The volunteer stops. The group makes a list of problems in the design of this particular lifting activity. For example, it requires lifting from off the floor, lifting above the shoulders, or twisting. Other items on the list might include: no grips, unbalanced weight, or speed-up (the job has to be done too fast).

- Ask for a new volunteer to lift another prop, and continue the exercise in the same way until all the props have been lifted. By then, the class will have a summary of the problems with the various tasks.

Part II: Discussing Redesign

- Ask the entire group, "How could you change the design of these jobs to make them safer?"

- Have people suggest a list of ideas. Discuss these possible solutions and any obstacles to achieving them.

Part III: Reviewing Proper Lifting

- Explain that since not all jobs can be redesigned, it is essential to learn proper lifting techniques.

- Ask participants to lift an object in different ways: standing close to it, standing far away, lifting with a straight back and bending the knees. Ask them if they can feel the differences in the strain that different techniques put on the body.

- Explain and demonstrate correct lifting procedures. Then, practice with the entire group.

Using Demonstrations and Hands-on Activities

A demonstration offers participants a chance to observe a particular action or procedure. Hands-on activities allow participants to practice the action or procedure themselves. Examples include fit-testing a respirator, going through emergency response procedures and lifting objects safely.

Advantages

- Demonstrations can give step-by-step instructions for doing something, such as using a piece of equipment correctly.
- They can illustrate a technical concept that is difficult to explain in words.
- Hands-on learning helps participants retain more.
- It can give participants the skills to use back on the job.
- Hands-on learning does not rely on reading and writing skills.

Disadvantages

- Demonstrations may require a lot of preparation time and additional instructors.
- You may need special equipment or facilities.

Tips

- Clearly explain the purpose of the demonstration.
- Describe the process step by step as you do it.
- Show a few steps, have everyone do them and then show a few more.
- Review key concepts at the end of the demonstration.

Sample Participatory Lecture: "T-shirt Toxicology"

Adapted from Werner and Bower, *Helping Health Workers Learn*, Hesperian Foundation.

Time: 45-60 minutes.

Objective: To teach the effects of toxic chemicals on different body organs.

Use: Appropriate for most workers.

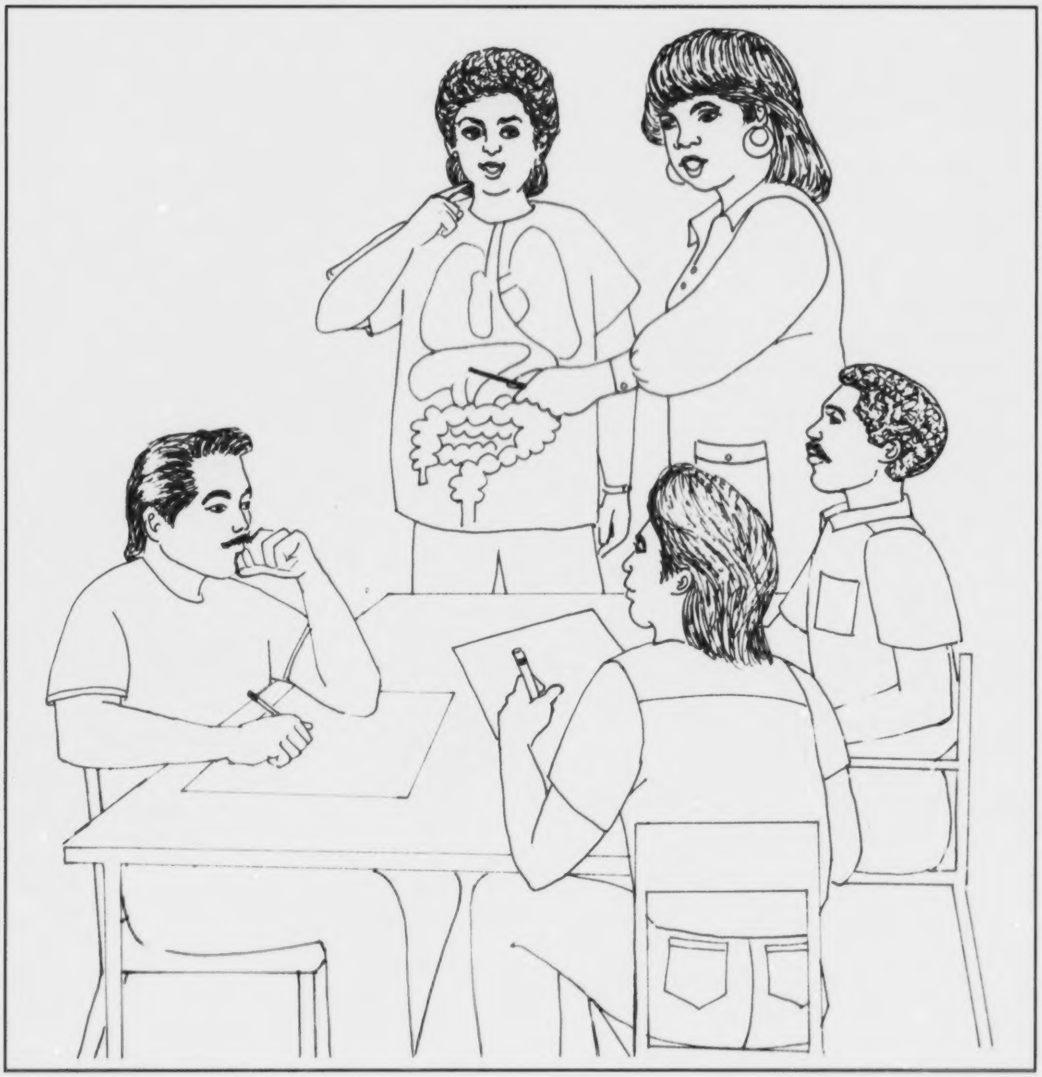
Background: Toxicology (health effects of chemicals) can be taught in a lecture combined with a visual aid. Accurate anatomical models of the body can be effective tools but are often expensive.

As an inexpensive alternative, a trainer can draw directly on a T-shirt or participants can draw on each other. This is the "T-shirt toxicology" technique.

How it works:

- Using a participatory lecture, introduce a particular chemical concept. For example, discuss how solids, liquids, or gases enter the body.

- Ask for a volunteer from the training group to wear a T-shirt on which you have drawn the major organs.



- The volunteer wearing the shirt is now a visual aid. As you discuss the routes of entry for various chemicals, use the shirt to show these routes. You can also show the organs that will eventually be damaged.

Using Participatory Lectures

Lectures can present new information. Traditional lecture methods are often primarily one-way — the trainer talks and participants listen. But a lecture can also be used in combination with a participatory activity. Combining lecture with a demonstration or role play can give participants an opportunity to apply the information.

The activity can come before, during, or after the lecture. An activity can be used at the beginning to help lead into your topic. Using an activity during the lecture can change the pace and keep people interested. Ending with an activity can give people an opportunity to review and apply the lecture material.

Advantages

- Lectures combined with participatory activities can introduce new concepts and facts quickly and efficiently.
- The activities can be a useful way to reinforce and apply important information covered in the lecture.
- The activities can provide a change of pace and keep people interested.

Disadvantages

- Lectures can be a passive and boring form of training unless they are combined with discussion or other participatory activities.
- Lectures, even some that include activities, rely heavily on trainer knowledge and preparation.
- They can easily overwhelm participants with information.

Tips

- Keep the lecture brief.
- Supplement it with visuals to emphasize key points.
- Keep your language clear, and don't use jargon or abbreviations.
- Ask questions and draw on participants' experiences to avoid one-way communication.
- Have participatory activities before, during, or after the lecture.

To Sum Up:

- Be sensitive about literacy issues in a training session. Check in privately with anyone having reading and writing difficulties.
- Make it clear that you won't put people on the spot. Ask for volunteers to read aloud or write in front of the group.
- Use many different participatory training activities.
  - Ice-breakers
  - Risk maps
  - Role playing
  - Games
  - Small group exercises
  - "Trigger" visuals
  - Brainstorming
  - Demonstrations and hands-on activities
  - Participatory lectures
- Adapt your training activities to reduce reliance on literacy skills:
  - Read everything aloud.
  - Use visual aids and props.
  - Encourage teamwork.
  - Draw on workers' own knowledge and experience.
  - Say aloud anything that you write on a board or flipchart.
  - Try to avoid jargon or abbreviations.

Resources

Training

AFL-CIO Department of Education. *A Participant's Handbook for a Train-the-Trainer Program.* Washington, DC: American Federation of Labor and Congress of Industrial Organizations, undated.

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Vella, Jane. *Learning to Teach: Training of Trainers for Community Development.* Washington, DC: O.E.F. International, 1989.

Wallerstein, Nina; Piller, Charles; and Baker, Robin. *Labor Educator's Health and Safety Manual.* Berkeley, CA: University of California, Labor Occupational Health Program and Institute of Industrial Relations, 1981.

Wallerstein, Nina B., ed.; and Weinger, Merri, ed. *Special Issue: Empowerment Approaches to Worker Health and Safety Education. American Journal of Industrial Medicine,* Volume 22, no. 5, November 1992.

continued

Training Activities

The following are sources for the nine activities described in this chapter:

1. **Ice-breakers:** "Pairing Off for Introductions"

Werner, David and Bower, Bill. *Helping Health Workers Learn.* Palo Alto, CA: Hesperian Foundation, 1991.

2. **Risk maps:** "Mapping the Hazards in Your Workplace"

Mújica, Jorge. "Coloring the Hazards: Risk Maps Research and Education to Fight Health Hazards." *American Journal of Industrial Medicine*, Volume 22, no. 5, November, 1992, pp. 767-70.

3. **Role playing:** "Finish Marta's Story"

Labor Occupational Health Program, UC Berkeley, and University Extension, UC Davis. *24-Hour Health and Safety Training for Treatment, Storage and Disposal Facility Workers.* University of California, July 1990.

4. **Games:** "Pesticide Lotería"

Integrated Pest Management (IPM) Education and Publications, University of California at Davis. *La Lotería de Los Pesticidas.* University of California, ANR Publications, #3355, 1992.

5. **Small group exercises:** "Taking Action to Solve Workplace Problems"

University of California, Labor Occupational Health Program.
2515 Channing Way, Berkeley, CA 94720.

6. Trigger visuals: "Working Safely in a Hair and Nail Salon"

California State Board of Barbering and Cosmetology, and Labor Occupational Health Program, UC Berkeley. *Health and Safety for Hair Care and Beauty Professionals: A Curriculum on Hazards at Work*. Berkeley, CA: 1993.

7. Brainstorming: "What Do You Think?"

University of California, Labor Occupational Health Program.
2515 Channing Way, Berkeley, CA 94720.

8. Demonstrations and hands-on activities: "Back Injuries — Causes and Solutions"

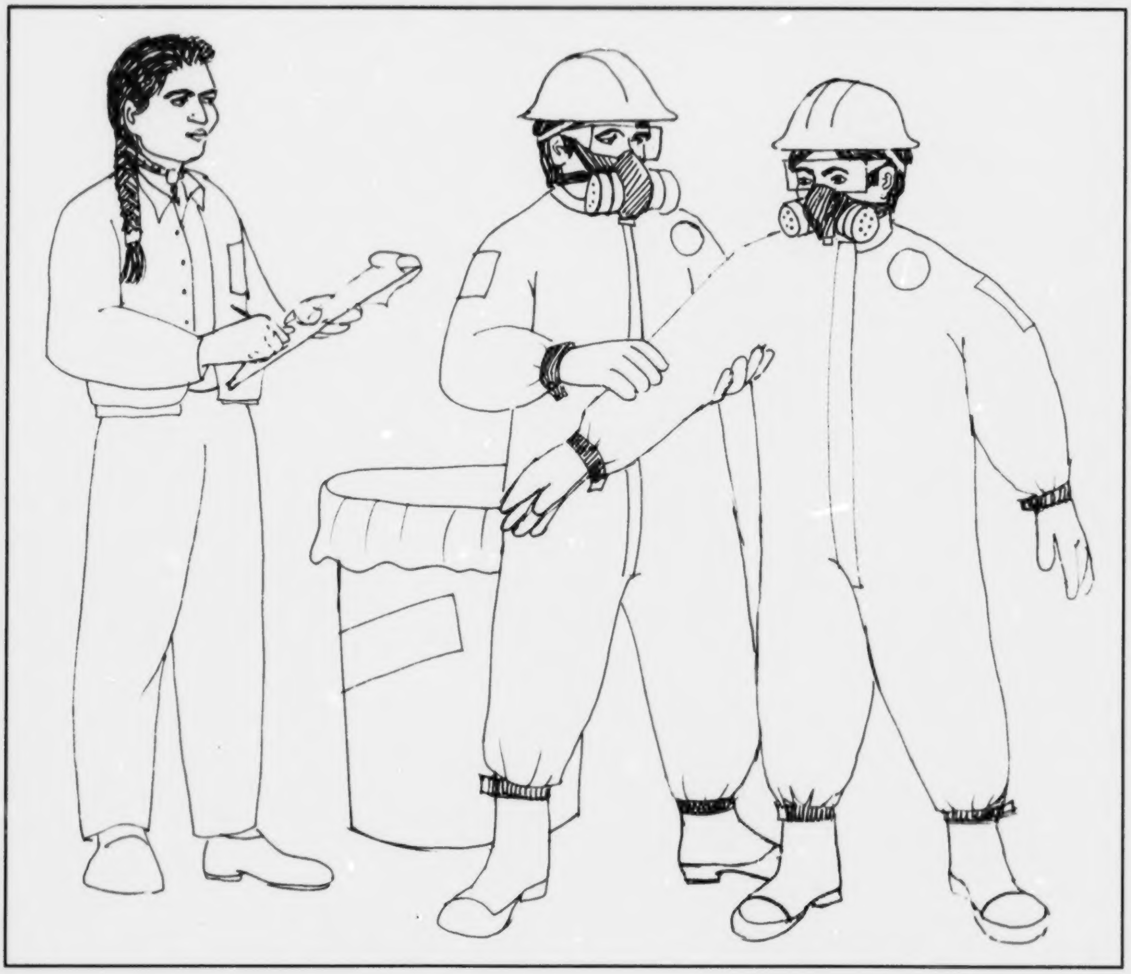
International Ladies Garment Workers' Union, Health and Safety Department. 275 Seventh Avenue, 6th Floor, New York, NY 10001.

9. Participatory lectures: "T-shirt Toxicology"

Werner, David and Bower, Bill. *Helping Health Workers Learn.* Palo Alto, CA: Hesperian Foundation, 1991.

CHAPTER 7

Skills Assessment



> "We base our assessment of what workers have learned on two things — their performance during the training and changes they make in the workplace after the training."
>
> —*Rudy, Trainer*

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In This Chapter, We Will:

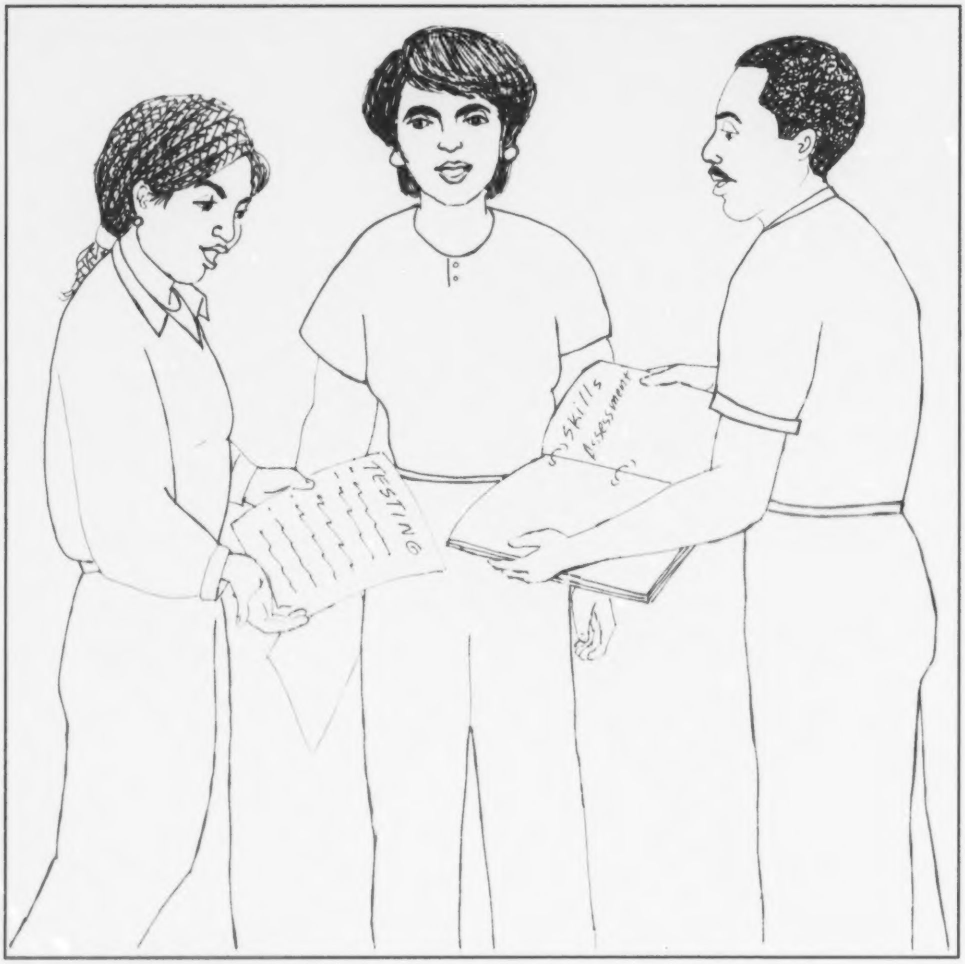
- Present reasons why trainers may want or need to test participants' health and safety knowledge and skill level.
- Discuss some potential drawbacks to using current testing methods with participants who have reading and writing difficulties.
- Offer concrete tips for developing a skills assessment with literacy in mind.
- Provide skills assessment models that involve minimal reading and writing.

Why Test?

Many health and safety trainers think it is important to be able to test participants' knowledge. But traditional models of testing don't work well with trainees who have reading and writing difficulties.

In 1992, LOHP held a workshop with health and safety trainers to discuss testing. Most of the trainers use written tests to evaluate how much their classes have learned. When asked **why** they use written tests, trainers gave the following reasons:

- A written test is the only way we can tell for certain if workers have learned how to protect themselves on the job.
- We need to certify that each participant is competent. Written tests are the only way to do so.
- Our funders or evaluators require us to document that each person in our class can pass a test.
- Written tests are an efficient, objective way to assess participants' knowledge.
- Written tests help us determine whether we have achieved our training objectives.
- Tests can be used to reinforce learning and review information.
- Knowing that there's a test makes people pay attention. Otherwise, they won't take the training seriously.

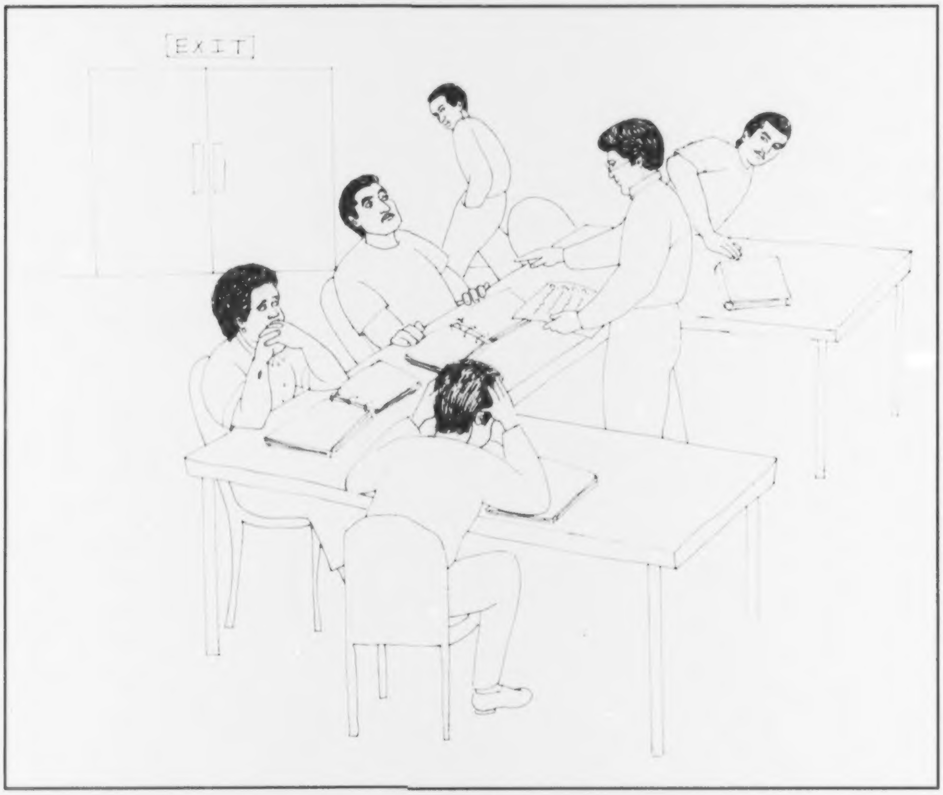


- If participants can't pass a test, they shouldn't be working in this kind of job.
- Designing an alternative to a written test is hard. There simply aren't a lot of good models out there.
- Alternatives such as performance-based testing take more training staff and preparation time.

How Workers Feel About Testing

LOHP asked workers in three focus groups to share their experiences with written tests. Here are two typical stories:

> "I was in a training once where the trainer embarrassed people who didn't know how to read. He said, 'There are 50 questions on this test and 50 people in the room. So let's go around the room and have each person read a question and answer it.' I counted the people and realized that I was number 38. So I looked at 38 and memorized the question by the time they got to me. But there were two guys who were literally sweating, and one guy just walked out of the room. Everyone asked why he walked out. I knew why — it was because he couldn't read."



> "I missed a promotion because of failing a safety test. It's frustrating because a lot of us are good, hard workers who can't read well. It's difficult to watch people who don't work as hard, but can read, pass a test for a promotion. They move up while we stay in the same job."

These stories highlight two important issues:

- Testing can be frustrating and emotionally stressful.
- Workers with reading and writing difficulties may have the necessary skills to do their jobs and to work safely. Still, they may be unable to show it in a written test.

Problems with Written Testing

- Written tests measure the ability to recall information, not the ability to apply it. The results of such tests don't tell us whether or not people are able to protect themselves from hazards on the job.

- Participants may do poorly on a written test because they are rushed, intimidated, or nervous. Trainers often test participants at the end of the day and may give them too little time to complete the test. Multiple choice or fill-in-the-blank tests may remind some people of past failures in school and other test-taking situations. This can affect their ability to pass the test.

- Tests may ask participants for information they haven't been taught or contain words they don't understand. Because of time pressures or a change of instructors, tests sometimes ask questions about subjects that haven't been presented in class. Or they may contain unfamiliar terms, such as "permeation" or "synergism," which were explained too quickly or not at all.

- Participants usually are not allowed to work together during a test. Many health and safety classes use training exercises that encourage people to work together in groups and share their knowledge. But during the test, sharing information is suddenly discouraged and considered "cheating."

Suggestions from Workers

The workers who attended LOHP's focus groups had a number of ideas for making testing easier for people with reading and writing problems.

- Read test questions aloud. Workers who know the information can't answer a question if they can't read it.
- Conduct assessments in a group. At the end of the training, ask people to talk in small groups about what they've learned and how to use the information back on the job.
- Let participants choose the type of test they will take. Offer the choice, for example, of a written, visual, or oral test.
- Let the group know at the beginning of the class what kind of assessment to expect at the end.
- Make your test visual. Use slides or a video to present a problem; then ask participants questions about how to solve it.

Alternative Testing Models

Because of the problems with traditional written testing, many people are interested in alternative models. One alternative is to assess the **skills** and **ability** participants have acquired at a training session. The following are some questions to ask yourself as you develop such a skills assessment:

- What key information do participants need to know to perform their jobs safely?
- What do I need to find out about people's skills to feel confident that everyone has learned the key information?
- What do I know about participants' test-taking abilities?
- How can I be sure I'm assessing a worker's ability to use information, not just the ability to memorize it and write it down?
- Is there a way for participants to use their own words and style to show that they understand the information? (For example, could I use an oral or hands-on test?)
- How can I simplify the language I use when assessing skills?
- Can I locate any good skills assessment models to adapt for this particular topic or course?
- How can I integrate slides, photographs, videos, or other visual materials into my skills assessment?

- How can I pilot-test my skills assessment before I use it in a course?
- What can I do during a class to help everyone feel comfortable and do well on the test?

Samples of New Assessment Models

The following pages describe some new skills assessment models that have been developed by trainers across the country with literacy in mind.

Alternative models include:

- Working in teams to answer a set of questions.
- Playing games to review course content.
- Using visuals as testing tools.
- Multiple choice questions with pictures.
- Oral checklists/hands-on demonstration.

These sample assessment models are identified by a vertical bar on the outside edge of the page.

☞ Additional resources on **Alternative Skills Assessment** and **Skills Assessment Models** are listed at the end of this chapter.

Example of Working in Teams: "The Right-to-Know Review"

From Miles, "Use of Participatory Training Techniques," *American Journal of Industrial Medicine.*

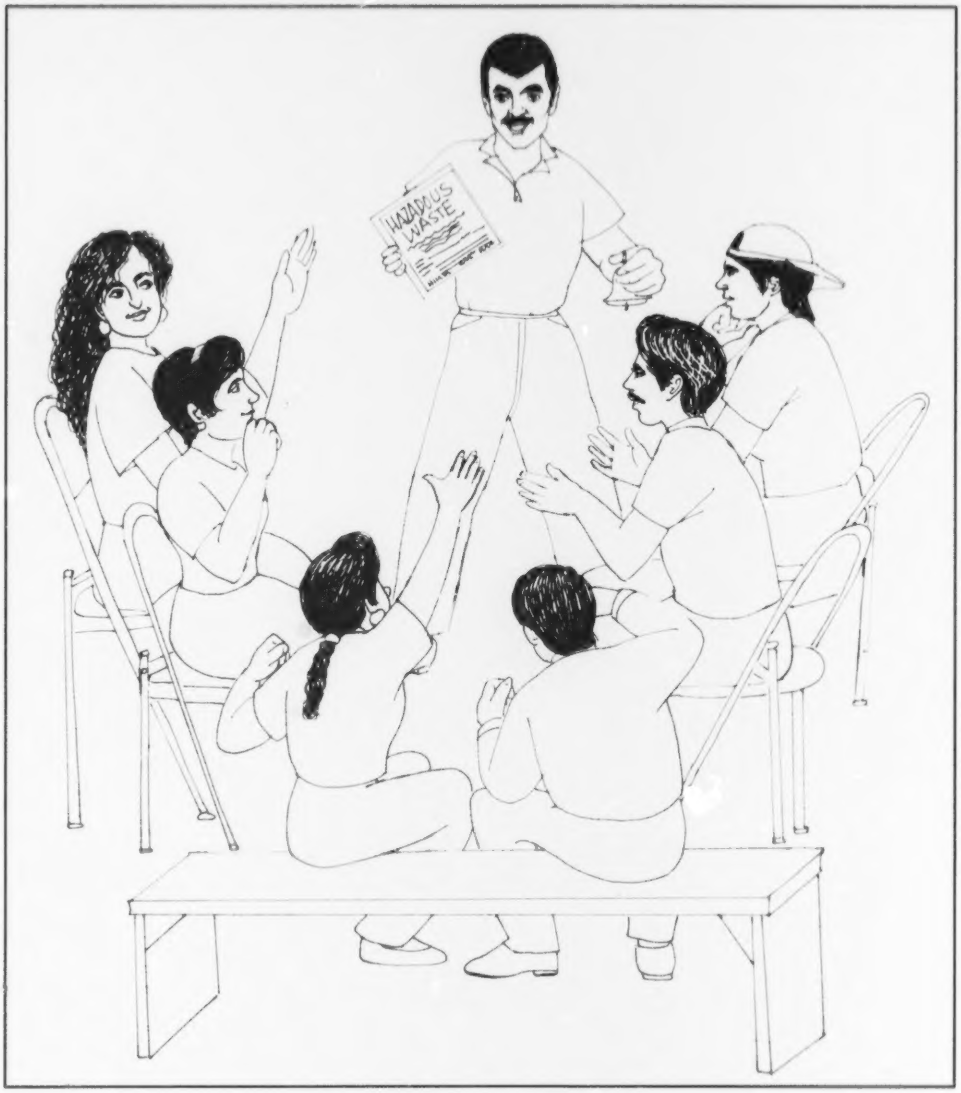
Time: 30-45 minutes.

Objectives:

- To conduct an evaluation of participants' knowledge without relying on reading and writing.
- To give trainers feedback on how well concepts and information are getting across.

How it works:

- Divide the class into teams. Each team will work together to answer questions orally.
- The trainer asks participants questions such as:
    - What is a permissible exposure limit (PEL)?
    - What information is found on a label?
    - What is a reproductive hazard?
- Team members take turns responding to each question.



- Teams compete against each other in answering the question before the 20-second bell rings.
- Participants are allowed to use their notes and ask their teammates for answers so that no one person is isolated.
- Prizes are awarded to the winning team.

Example of Playing Games: "The Pesticide TV Game Show"

From Weinger and Lyons, "Problem-Solving in the Fields," *American Journal of Industrial Medicine.*

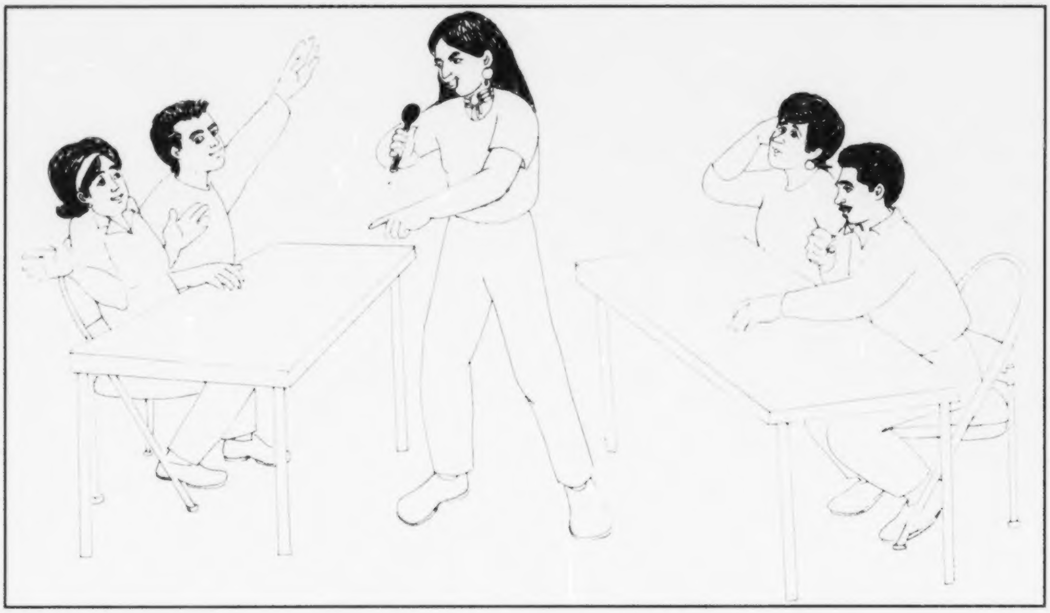
Time: 20-40 minutes.

Objectives:

- To help the trainer assess participants' knowledge using an approach that is fun.
- To allow participants to demonstrate their knowledge orally.

How it works:

- Prepare a series of questions that review key points in the training.
- Divide the class into teams to work together to answer the questions.
- Use an aluminum foil "microphone" or other props to create a game show setting.



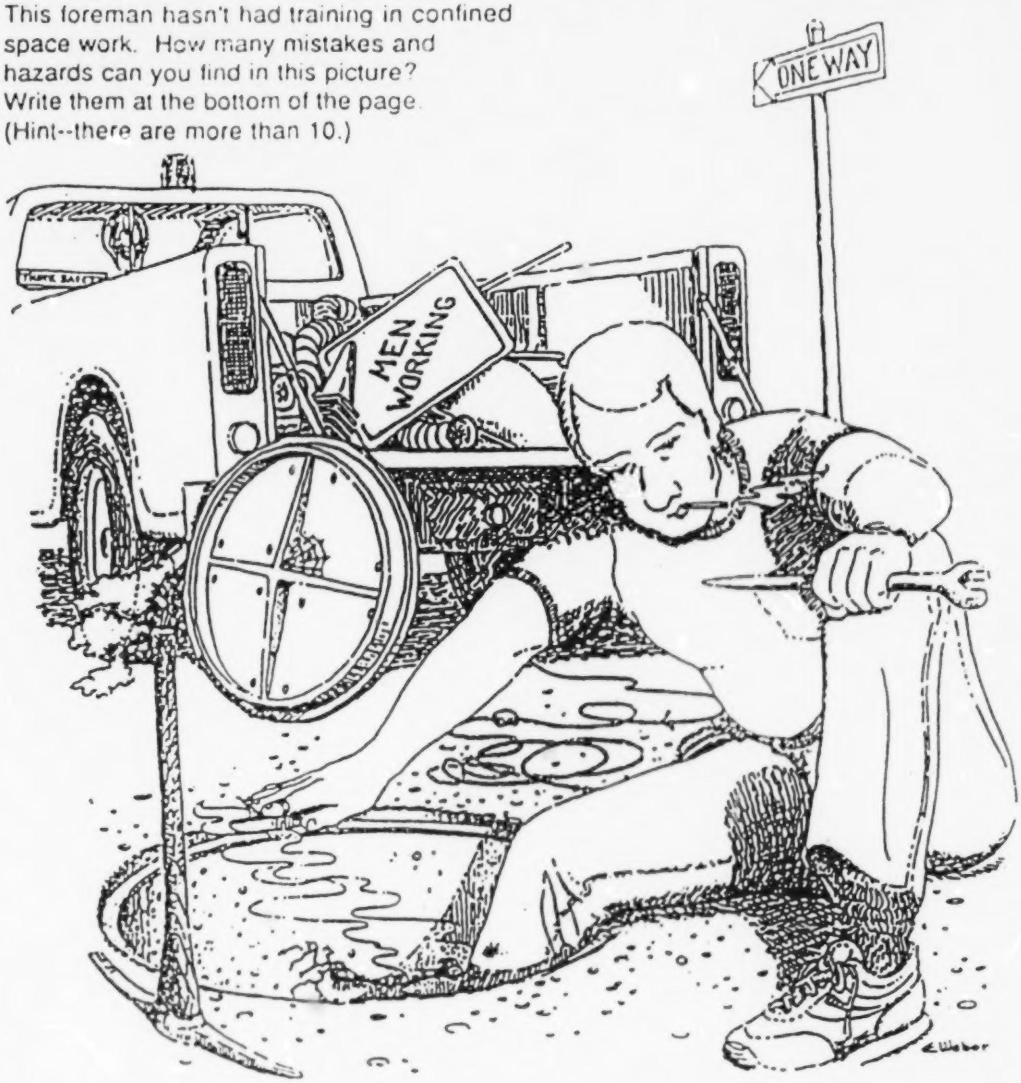
- Direct a question to one team and allow them to respond. Sample questions include:
  - How do pesticides get inside your body?
  - What are some symptoms of pesticide poisoning?
  - What kind of protective clothing should you wear when mixing pesticides?
- Ask the other teams if the response was correct or incorrect. Give the other teams a chance to respond if the answer is incorrect.

Example of Visual Assessment: "Confined Space Hazards"

From Service Employees International Union (SEIU), *Confined Space Hazards.*

WHAT IS WRONG WITH THIS PICTURE?

This foreman hasn't had training in confined space work. How many mistakes and hazards can you find in this picture? Write them at the bottom of the page. (Hint--there are more than 10.)



Time: 10-15 minutes.

Objective: To assess if participants can identify confined space hazards by using a picture as the testing tool.

Background: This exercise was developed for use in a Confined Spaces Training.

How it works:

- Hand out the picture of the confined space work setting to participants.
- Ask people to circle all the hazards they see in the picture.
- Mention that there are more than ten hazards in the picture.
- Ask people in the group to name the hazards they've identified.
- Discuss how to prevent or control such hazards.

Example of Multiple Choice Test with Pictures: "Respirators"

From City of San Diego Water Utilities District.

Time: 30 minutes (for 20-question test).

Objective: To assess participants' knowledge of respirators by using a written test that is illustrated and read aloud.

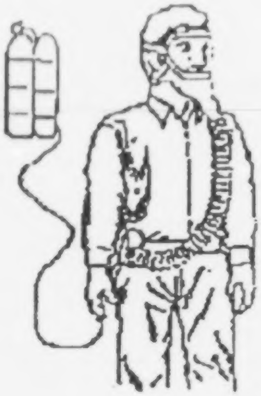
Background: This test was developed by the City of San Diego Public Utilities District in conjunction with their workplace literacy program. The original test consists of 20 questions.

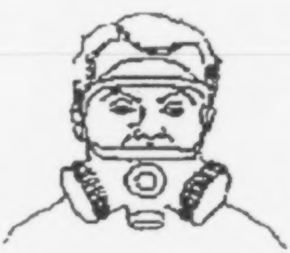
How it works:

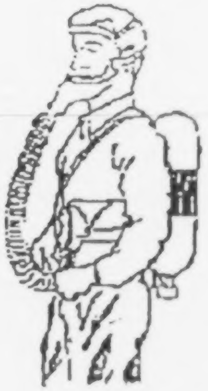
- The test is read aloud by the instructor.
- Participants circle the picture for each question that represents the correct answer.
- Instructor reviews correct information with participants after the test is completed.

Respirator Test

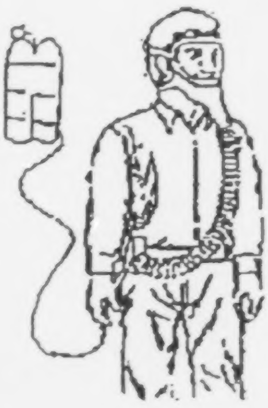
1) Circle the picture of the air-supplied respirator

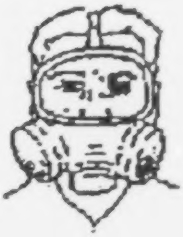


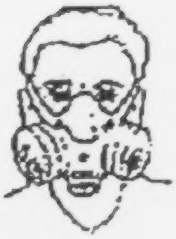


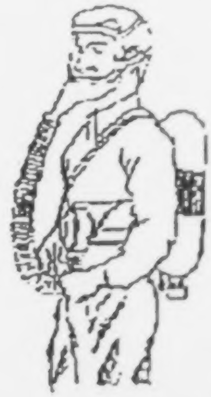


2) You're about to enter a sewer manhole in which you know someone has dumped an unknown chemical. Your gas detector indicates that the oxygen level is 20% and that no explosive conditions exist:
Circle the correct respirator for the job......









Example of Oral Checklist/Hands-on Demonstration: "Hazardous Waste Training"

From Labor Occupational Health Program, *24-Hour Health and Safety Training.*

Time: 30-45 minutes.

Objective: To document each participant's knowledge about emergency response and personal protective equipment by using an oral and hands-on testing method.

Background: This checklist was developed by LOHP trainers as an alternative to a written test. This method gives people an opportunity to show what they know about the subject matter. It also reinforces the importance of working in teams.

How it works:

In this model, trainers:

- Go through the information on the checklist orally with each participant.
- Assess their ability to demonstrate knowledge about personal protective equipment (PPE).
- Record the results for each participant by using a checklist.
- Correct any misinformation or areas that need additional explanation.
- Review the correct way to use PPE if participants are unclear on what to do.

SPILL RESPONSE: PERSONAL PROTECTIVE EQUIPMENT
Checklist

Name: ____

1. Roles	YES	NO
a. Knows what his/her role is	_____	_____
b. Knows who the incident commander is	_____	_____
c. Knows who the response team leader is	_____	_____
2. Suit Up		
a. Is wearing tyvek suit, hood, inner and outer gloves	_____	_____
b. Tyvek arms are on top of (over) gloves	_____	_____
c. Duct tape is correctly fastened around wrists, ankles (optional), over zippers and at the top of zippers	_____	_____
3. Air Purifying Respirators		
a. Is wearing an AP respirator of correct size	_____	_____
b. Can demonstrate a positive and negative respirator fit-test	_____	_____
c. Knows which EPA level is being worn	_____	_____
4. SCBA		
a. SCBA face mask and harness are correctly fitted to the head and chest	_____	_____
b. Can demonstrate how to turn on and off the mainline and bypass valves WITHOUT LOOKING at them	_____	_____
c. Knows what it means when SCBA bell goes off	_____	_____

To Sum Up:

- Many tests measure only the ability to recall and write down information, not the ability to apply it.
- Workers who are unable to pass a written test may be very skilled at their jobs. They may also have an excellent understanding of safety.
- Use alternative skills assessment models that don't rely on reading and writing. These include:
  - Working in teams.
  - Playing games.
  - Using visual assessments.
  - Multiple choice tests with pictures.
  - Oral checklist/hands-on demonstration.
- Involve workers themselves in designing your skills assessment. Field test your models with members of your target audience.

Resources

Alternative Skills Assessment

Hill, Sara. "Alternative Assessment Strategies: Some Suggestions for Teachers." *Literacy Update.* New York: Literacy Assistance Center, Inc., May/June 1992.

McDermott, Ray and Goldman, Shelly. *Exterminating Illiteracy.* Palo Alto, CA: Stanford University, undated.

Wallerstein, Nina, ed.; and Weinger, Merri, ed. *Special Issue: "Empowerment Approaches to Worker Health and Safety Education." American Journal of Industrial Medicine*, Volume 22, no.5, November 1992.

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Skills Assessment Models

The following are sources for the Skills Assessment Models described in this chapter:

1. Working in teams: "The Right-to-Know Review"

Miles, Karen K. "Use of Participatory Training Techniques in a Right-to-Know Train-the-Trainer Course for New Jersey Public Employees." *American Journal of Industrial Medicine*, Volume 22, no.5, November 1992, pp. 721-27.

2. Playing games: "The Pesticide TV Game Show"

Weinger, Merri and Lyons, Mark. "Problem-Solving in the Fields: An Action-Oriented Approach to Farmworker Education About Pesticides." *American Journal of Industrial Medicine*, Volume 22, no.5, November 1992, pp. 677-90.

3. Visual assessments: "Confined Space Hazards"

Service Employees International Union (SEIU). *Confined Space Hazards.* Washington, DC: Health and Safety Department, 1992.

4. Multiple choice test with pictures: "Respirators"

San Diego, City of. *Respirator Test.* San Diego, CA: Water Utilities District, 1991.

5. Oral Checklist/Hands-on Demonstration: "Hazardous Waste Training"

Labor Occupational Health Program, UC Berkeley, and University Extension, UC Davis. *24-Hour Health and Safety Training for Treatment, Storage and Disposal Facility Workers.* University of California, July 1990.

CHAPTER 8

Further Steps

"My thoughts are to give something back to help others who could benefit from my experience."

—Kelly, Truck driver

In This Chapter, We Will Discuss:

- Experimenting with innovative ways to make health and safety information more accessible to workers.
- How to educate others in the field about the need to address literacy.
- How to advocate for health and safety materials that are easy to read and understand.
- How to promote and participate in literacy programs.

Experiment with New Methods and Approaches

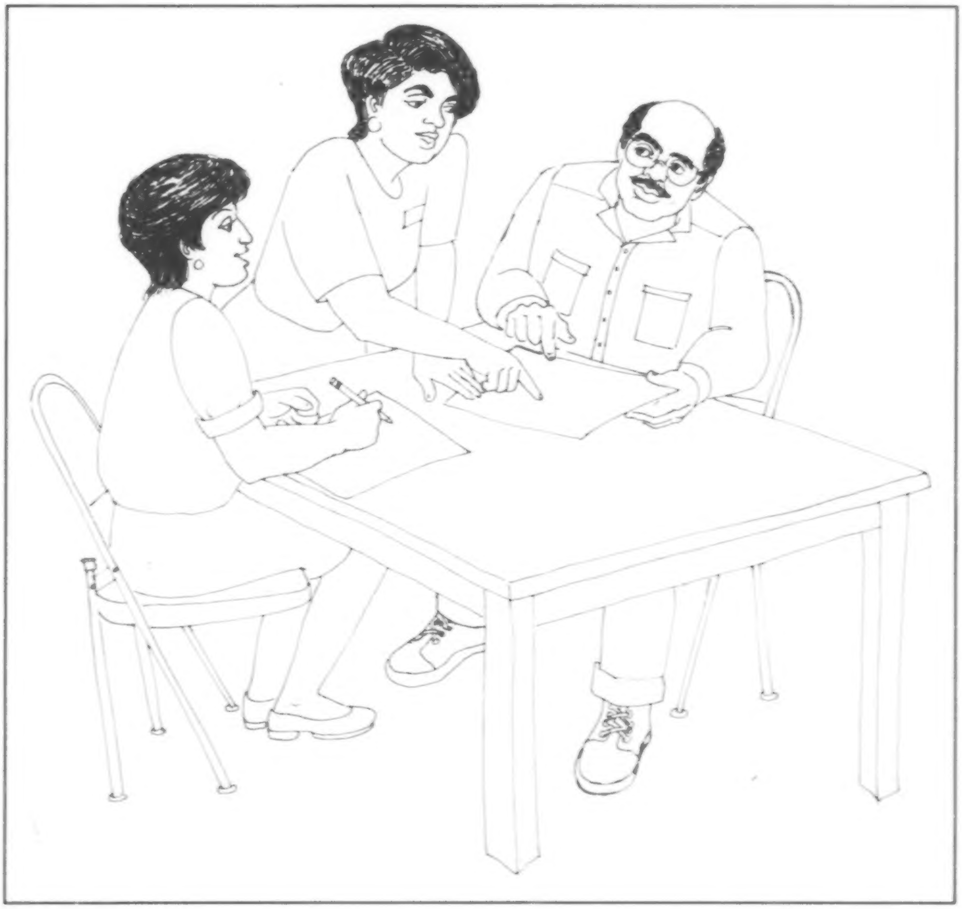
"One of the most interesting things I've learned is that even highly literate workers prefer visually appealing materials and participatory training activities. Literacy awareness has forced us to become better writers and more creative trainers."

—Diana, Trainer

Make a commitment to try some of the activities, strategies and approaches described in this manual:

- Learn more about the reading and writing skills of your training audience. Ask people how they learn best. Get their suggestions about materials and activities that would work for them.
- Hold focus groups with your audience. Ask workers for feedback on your current training materials and activities.
- Field test new materials with participants who have a range of literacy skills. Adapt your materials if necessary.

- Try a new participatory activity in your next training course.
- Experiment with alternative ways to assess skills.
- Share with other trainers any materials and training activities you develop. Consider holding a meeting with other trainers in your area. Regional or national meetings can also be a good way to make connections with other health and safety trainers.



Educate Others About Literacy Issues

"Attending a workshop on literacy issues motivated me to change. As someone who's been training for ten years, I felt inspired to take a new look at how I approached my work."
—Mark, Trainer

Help other trainers, union representatives, supervisors, employers and government agencies to learn more about literacy issues. Organize workshops on literacy for other trainers in your own organization. Use the information in this manual and other resources to inform people about:

- The extent of the literacy problem at work and in the community.
- The effect of literacy on workplace safety.
- The need and right of workers to understand health and safety information.
- Practical ways to train workers with a range of literacy skills.

Advocate for Change

- Become an advocate for more accessible health and safety information — more readable MSDSs, labels, alerts, instructions and similar material.
- Raise literacy issues in the policy arena. Contact local legislators, advocacy groups and lobbyists to bring literacy issues to the forefront.
- Lobby for increased funding for education in the public school system, adult education classes and literacy programs.
- Encourage employers to support employee development, training and continuing education.

"People need to come forth and speak out about literacy. I'm willing to talk about my experience, but I can't do it alone."

—Ricky, Film lab technician

Promote and Participate in Literacy Programs

"I had referred a lot of people to the local library reading program. But for myself, I had kept putting it off until I finally decided I'd come to the library. I felt so relieved because at least I had taken a step. I was assigned a tutor. I found out that I knew more than I thought I did. It was just a matter of taking a step and coming here and saying, 'I need help.'"

—Alberta, Nurse's aide

Learn more about the literacy resources in your area. Literacy programs may be available through local unions, employers, libraries, churches, or community organizations. When you inquire about these programs, here are some questions to ask:

- Does the program focus on what **workers** want to learn? If the program is based at the workplace, make sure the employers' needs don't drive the content of the program. The most successful literacy programs build on the learning interests of the participants themselves.

- Does the program avoid standardized tests or "literacy audits" that could be used against an employee? A literacy audit tests workers' reading, writing, math and reasoning skills. These tests can sometimes be used to single out or discriminate against workers with literacy problems.
- Are program records confidential? Workers sometimes want reassurance that their participation in a literacy program will not be revealed to their employer.

If you do not find the literacy programs you need in your community, join with others to make them happen.

☞ For additional resources on **Workplace and Community Literacy** programs, see the list at the end of this chapter.

To Sum Up:

- Try some of the activities, strategies and approaches described in this manual.
- Educate others about literacy issues.
- Organize workshops on literacy for other trainers in your organization.
- Become an advocate for more accessible health and safety information.
- Advocate for change in the education and policy arena.
- Encourage employers to support employee development and training.
- Learn more about the literacy resources in your area.
- Share the results of your efforts with LOHP and other trainers.

Resources

Workplace and Community Literacy

Association for Community Based Education. *Literacy for Empowerment: A Resource Handbook for Community Based Educators.* Washington, DC: Association for Community Based Education, 1988.

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